

University of Nevada, Reno

**USFS Trail places and Nature-Based Recreation: More-than-human embodied and visceral co-productions of value, place, and relations.**

A dissertation submitted in partial fulfillment of the requirements for the degree of  
Doctor of Philosophy in Geography

By

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prepared under our supervision by

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**Abstract:**

This research examines how public land users practice and produce their relationships with nature(s) via embodied experiences within USFS trails and how these micro-scale experiences reflect, mediate, and contradict broader macro narratives about nature-society relations and capitalocentric value. At a time when public lands are made precarious by policies of privatization and when the global impacts of the Anthropocene on the environment are being felt in intimate and embodied ways, the overarching research question guiding this dissertation is: How are nature-based recreators experiencing and practicing more-than-human (MtH) inter-relations/co-productions in embodied ways within USFS trails in the Humboldt-Toiyabe National Forest? This central question is explored in three article-length chapters: 1) *Visceral Value: nature-based recreation and embodied more-than-capitalist practices with/in USFS trails*; 2) *Sensing place: nature-based recreation and more-than-human haptic relations within USFS Trails*; and 3) *Participant auto-ethnographic trail journals: representing more-than-humans through embodied experiences of nature-based recreator*. Throughout, weak theory is employed as reparative work to combat the *strong theory* approach of traditional “western”, “modern”, “progressive” theorizing which attempt to streamline all life and livelihoods as homogenous for ease of capitalist market translations. Qualitative methods employed are questionnaire, interview, journaling, photo-elicitation, and auto-ethnography. Unique to this research is participant completed autoethnographic journals which emphasize researcher absence during data collection. This research progresses existing knowledge and method regarding nature-based recreator practice in US public lands and stresses that it is via participant experiences and data that researchers are able to best understand and

represent place-based constitutions of human and more-than-human relations. This research contributes to the site-specific innovations in theory and practice that are literally *grounded* in the humans, more-than-humans, and places within which researchers engage.

To Betty and Mickey

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## **1. Introduction:**

This research examines how public land users experience and produce their relationships with nature(s) via practice and embodied/visceral experiences within USFS trail places and how these micro-scale experiences reflect, mediate, and contradict broader macro narratives about nature-society relations. At a time when public lands are made precarious by policies of privatization and when the global impacts of the Anthropocene on the environment are being felt in intimate and embodied ways, the overarching research question guiding this dissertation is: How are nature-based recreators experiencing and practicing more-than-human (MtH)<sup>1</sup> inter-relations/co-productions in embodied/visceral ways within USFS trail places in the Humboldt-Toiyabe National Forest? This central question is explored in three article-length chapters. The first article is titled, *Visceral Value: nature-based recreation and embodied more-than-capitalist practices with/in USFS trails*. This article engages literature on more than capitalist (MtC) diverse economies, visceral geographies, and nature-based movement to explore how nature-based recreators are co-producing MtC valuations within USFS trail places<sup>2</sup>. The second article is titled, *Sensing place: nature-based recreation and more-than-human haptic relations within USFS Trails*. This article argues that nature-based recreators make trailplaces via *haptic relations* with/in natures in US Forest Service lands. This chapter brings together literatures on the sensory and embodied components of nature-based recreation and place-making practices to illuminate how humans and natures are sensing and experiencing one another and thusly

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<sup>1</sup> MtH and MtC are employed here as shorthand for more-than-human and more-than-capitalist, respectively, based on Bastian et al.'s work with MtH participatory action research (see Bastian, 2017)

<sup>2</sup> The term, trail places, is used throughout these works to represent the trail spaces that are imbued with meaning and practice co-produced through human-MtH relations, making them places.

create a sense of place. The third article, *Participant auto-ethnographic trail journals: representing more-than-humans through embodied experiences of nature-based recreator*, focuses on methods. It proposes, *participant auto-ethnographic trail journals*, for better understanding, noticing, and representing MtH in fieldwork and analysis through human participant experience. It emphasizes the advantages of researcher absence in participant data collection. This chapter brings together theory and practice on existing MtH methods and sensory-based and embodied methods. Running through each of these articles is the concept of *weak theory* (Sedgwick, 2003; Gibson-Graham, 2006; Roelvink, 2016; Miller, 2019) that stems from feminist theoretical strategies of reading for and representing difference as opposed to homogeny, meaning that focus is shifted from structural assumptions of hegemony of homogeny to individuals practicing and co-producing life in places as diverse beings. Weak theory is practiced as reparative work (Roelvink, 2016: 43) in the face of the *strong theory* approach of traditional western, “modern”, “progressive” theorizing which attempt to streamline all life and livelihood as singular for ease of capitalist market translations (see Gibson-Graham & Roelvink, 2009: 324). This theory is covered in depth within article one presented here, *Visceral Value: nature-based recreation and embodied more-than-capitalist practices with/in USFS trail places*. Weak theory allows this research to focus on *all* possible actors contributing to socioeconomies, place-making, and relations within the USFS trail places through the site of the body. In this introduction, I first provide background to contextualize the central question of this project. Second, I explore existing literature and theory on: 1. Neoliberal natures and alternatives; 2. More-than-human geographies; and 3. Place and embodiment. Lastly, I outline the methods and research design for this project.

***Background:***

Although a “national public domain” has been present in the U.S. since the formation of the nation-state, the formal beginnings of U.S. federally designated multi-use public lands can be traced to the first National Park designation, Yellowstone, in 1876 (Wilson, 2014: 39). U.S. public lands have become an important symbol in the American national imaginary. Designated as federally held public commons, these lands consist of nearly 1/3 of the US land mass (Wilson, 2014: 11): 247 million acres Bureau of Land Management (BLM) land, 193 million acres national forests and grasslands, 150 million acres national wildlife refuges as public lands (Wilson, 2014: 4). They have become so embedded in U.S. culture that, “even those that have never set foot in a national park find them deeply woven into the cultural and symbolic fabric of the nation.” (Wilson, 2014: 63). U.S. public lands, “unparalleled in any nation on earth” (Baden and Snow, 1997: 104) in size and infrastructure, are not only core components of the national narrative and nostalgia for Americans, they are also structured as multi-use American commons (Ketcham, 2019: 5) on which varied stakeholders are able to form and foster diverse relationships to natures, symbolically and materially. For U.S. public land users, these are, “lands that demonstrate our society’s relationship with nature.” (Clayton, 2019: XV), one forged through destruction in the form of colonialism and exploitation and the simultaneous production of a particular national ethos.

How public lands were created, used and perceived is closely tied to the socio-economic and political history of the United States. Initially, as public lands were designated in the United States, a transition took place in the ways that American publics considered natures, this was a shift from, “sites of improvement and labour into sites of

preservation and leisure.” (Stinson, 2017: 177). This spatial and cultural development opened the door for new and diverse interpretations, identities, and experiences for American publics regarding their experience with public lands. Today, the most common way that Americans interact with public lands is through recreation (Wilson, 2014:1). The recreation narrative of U.S. public lands emerged strongly with the “Environmental Decade” of the 1970’s and continued on into what Wilson terms, *the Pendulum Years*, of present (Wilson, 2014: 48). With emphasis on recreation, there came to be a, “growing number of Americans who valued [U.S. public lands] primarily for their beauty, wildlife, open spaces, for the chance to walk and camp and experience in quiet and solitude the rhythms of the land” (Ketcham, 2019: 26). The Environmental Decade ushered in a period of protection of wild lands and natural spaces for the purposes of recreation and preservation (Stinson, 2017; Wilson, 2014; Ketcham, 2019; Clayton, 2019; Baden & Snow, 1997), an interest hearkened back to the early 1900’s when the “restful solace of nature” was viewed as a “respite from the business world” (Wilson, 2014: 81). Recreation has come to be seen as an escape from the grind of an increasingly extractive – materially and emotionally – economic system promoting progress, modernity, and efficiency (Foucault, 1981; Bennett, 2001; Braun, 2015; Brown, 2014; Gibson-Graham, 2006; Haraway, 2008; Hooks, 2009; Lowenhaupt-Tsing, 2015; Stinson, 2017).

Outdoor and nature-based recreation is indeed its own massive industry within U.S. and global capitalism and neoliberalism<sup>3</sup>. This research does not attempt to portray these U.S. public lands as sites apart from hegemonic systems of capitalism, but instead

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<sup>3</sup> In 2017, Outdoor Industry reported that outdoor recreation was one of the largest economic sectors: consumer spending at \$887 Billion, 7.6 Million jobs in the U.S. alone, \$65.3 billion in U.S. federal tax revenue, and \$59.2 billion in local/State tax revenue.

is demonstrating the ways that nature-based practitioners and MtH are relating in ways that they report to be MtC, or even in many instances “away” from capitalism. This investigation focuses on rescaling experiences and socioeconomic valuations occurring at the sites of the human body embedded within these U.S. public land spaces in order to show the multiple ways that these lands are valued depending on the scalar and cultural focus. Rescaling offers insight into ways that other-than-capitalist valuations of these lands can be illuminated, combatting the current threats to U.S. public lands which include being dismantled for political and economic agendas that are quite specific to the current form of capitalism, neoliberalism. *Neoliberalism* is the contemporary form of capitalism existing on U.S. national and global scales since the late 1970’s and early 1980’s. Although neoliberalism stems from traditional capitalist values, it differs in its penchant for national and global privatization, social and environmental deregulation, global competition, specific cultural and economic interpretations and enactments of financially driven progress, deterritorialization of resources and humans, and promotion of global cultural and economic homogenization (Harvey, 2005, 2011; Gibson-Graham, 1996, 2006; Hesketh, 2016). Harvey describes neoliberalism as a “system of justification and legitimation” for economic gains at any social and/or environmental cost (Harvey, 2011: 19).

The threat of privatization and sale of US public lands threatens American’s access to these spaces as well as the MtH inhabitants of these spaces. The previous presidential administration brought these threats into reality, marking unprecedented threats to public lands (Robbins, 2019) via sale for extractive purposes, privatization and removal of public land designation in the interest of corporate production of energy and

other resources (Simmonds et al, 2018). Brown and Lane explain that during the time of the Trump administration, US public lands suffered, “the largest reduction of federally protected land in U.S history” (Brown and Lane, 2019). In 2017, President Trump and the US Congress succeeded in approving oil and gas development in the Arctic National Wildlife Refuge and executed two of the largest public land downsizes in US history: Grand Staircase-Escalante National Monument by 51% (approximately 2,200 square miles) and Bears Ears National Monument 85% (roughly 3,000 square miles). On top of these massive reductions in public lands, there are currently an additional nine national monuments (terrestrial and marine) that are slated for downgrading/downsizing in order to prioritize resource extraction of these territories (Golden Kroner et al., 2019: 882). Neoliberal valuing of U.S. public lands in the extreme has undermined their designation as multiple-use, lands set aside for diverse stakeholders, not solely for extraction by corporations.

Amidst these events, large scale environmental crises accelerating in scale under neoliberalism, are drawing attention to the consequential impacts of the Anthropocene on the environment and intrinsic link between human and MtH well-being. These crises lead scholars to engage with more than human actors/action within social science research. Bastian, for example, explores possibilities of more than human participatory research (PR):

Arguably issues like climate change, biodiversity loss and increasing rates of extinction create conditions where it is possible to put nonhumans explicitly on the PR agenda, and to ask how the commitments of PR – to situated knowledges, a wider recognition of agency and an expansive sense of stakeholders might be

revisited. That is, these crises invite participatory researchers to explore whether the injunctions of Western anthropocentrism might have unnecessarily restricted how participation is imagined, and to reconsider to whom its commitments might be made. (Bastian, 2017: 19).

This moment poses important questions about the ethical and ontological character of the human-nature relationship: how it is conceived, operationalized through policy, but moreover experienced and practiced by humans and MtH. Amidst large scale environmental and political change, how are people configuring and reconfiguring their relationship to nature, explored in this project through the lens of the human and MtH, around prominent and alternative economic logics and value systems? Public lands are an ideal place to direct these questions. For many Americans, public lands are the primary space in which a symbolic and material relationship to nature is built.

Because this project is focused on the ways in which nature-based recreators are experiencing *with/in* MtH natures via sensory, embodied and visceral means, senses are an important field for data collection. Scholars have expressed need for further study of the ways that humans experience nature via touch, sense, and memory (Griffin, 2001; Brown, 2014, 2015, 2017; Humberstone, 2011 & 2013; Bell et al., 2017). Humberstone writes:

Very little scholarship has explored how human beings learn to be in the natural environment through practice in adventurous/nature-based activities. That is few studies have tried to understand our corporeal and sensual relations with the natural environment when we are engaged through sport in nature or adventurous activities. (2013: 566).



In this epoch, a focus on “mutual existence” comes to the fore in the face of the realities of the Anthropocene that have far reaching impacts across ecosystems (human and MtH). Fishel (2019:352) writes that “relationships can no longer be defined by domination or damaging hierarchies, but rather as productive and transformative connections with other beings”. This mutual existence might also be understood through the concept of “co-productions” (Gibbs and Holloway, 2018: 252) and the “interrelationships” (Humberstone, 2013: 269) between humans, their senses and movement, and MtH natures. This research examines the everyday practice and sense to understand how the macro world of policy and large-scale environmental change is felt, experienced, and redefined in the micro-practices of public land users and the “mutual” connections formed across the human/more than human interface. This project recognizes how the current Anthropocene is dramatically altering the real and perceived human-MtH relationship and endeavors to rescale our understanding of ‘nature’ in relation to public lands to the site of the body to engage in more representative means of theorizing and implementing research on this relationship (Lowenhaupt-Tsing, 2005, 2015; Tsing, 2017; Kohn, 2013; Haraway, 2016; Brown, 2014, 2015, 2017; Braun, 2006, 2008, 2015; Bennett, 2001; Bakker and Bridge, 2006).

Although this research does not focus directly on the colonial traumas that have occurred within these spaces, it does recognize that this history of conquest led to the current US national designation of these lands as “public”. Considering this historical context, this research presents current experiences with nature-based recreators within these spaces while acknowledging that this recreational access is occurring in sites of historic and present inaccessibility, inequity, and human and nature conquest. USFS

lands. These lands now represent, in thought and action, “freedom”, “wilderness”, and “nature” for many Americans. While these “American ideals” are celebrated by nature-based recreators in these spaces today, these are lands that were/are appropriated from first nations peoples via violent processes of conquest, genocide, and ethnocide (Kosek, 2016, Savoy, 2015). These are also spaces that mirror the existing inequities in access to nature and recreation in the US today, reflecting the social, economic, and political disparities in the US today (Finney, 2014, Mills, 2014; Kosek, 2006), posing the question: for whom is nature accessed/accessible? (Deming & Savoy, 2011; Boyd et al., 2018; Minor & Boyce, 2018; Moore, 2017). It is important to note that participants involved in this research consider USFS lands to be “American” and large part of their identities, however, they also strongly voiced their awareness of and extreme discontent regarding the colonial histories and issues of access occurring in these land spaces designated “public” for *all* Americans.

### ***Literature Review:***

This research draws from and contributes to literature on MtC economies, MtH geographies, and place and embodiment. Human subjectivities cannot be understood or studied in isolation. They are, instead, regarded as components of larger human-MtH networks. Braidotti argues that, “the posthuman knowing subject has to be understood as a relational embodied and embedded, affective and accountable entity and not only as a transcendental consciousness.” (Braidotti, 2019: 31). These, “lived experience[s] of ‘togetherness’”, practiced between human and more than human in spaces and places (Lau & Scales, 2016: 138) are, “a co-operative trans-species effort (Margulis and Sagan,

1995) that takes place transversally, in-between nature/technology; male/female; black/white; local/global; present/past – in assemblages that flow across and displace the binaries.” (Braidotti, 2019: 33).

Within the current context of the “global environmental crises” of the Anthropocene, scholars are encouraged to “rethink human subjectivity” (Singh, 2013: 189) in thought and practice. We are encouraged to explore the ways that large scale thoughts and process are impacting individuals and places locally, at the site of the body, where larger structural narratives are interwoven with lived experiences (Zhang, 2019: 489). While modernism promotes nature/society binaries (Grove, 2009: 208), nature-based recreation/movement can reflect “multiple experiences of hybridity” (Grove, 2009: 208), of complex interrelationships between human and more than human, between body, senses, and the surrounding natures. Instead of the assumed stereotypical neoliberal subjectivities of the economically “rational” and transformatively “fixed” human identities based on self-interest that are promoted by capitalist-based cultures, environmental subjectivities can reflect the ever-changing, mobile, and place-based relationships between humans and the more than human natures with which they engage (Singh, 2013: 189). Here, I survey literature regarding three broad themes: 1.) Neoliberal natures and alternatives; 2.) More-than-human (MtH) geographies; and 3) Place and embodiment.

*Neoliberal Natures and Alternatives:*

Through what lens has ‘nature’, especially in relation to public lands been viewed in the dominant socioeconomic and environmental narrative of the American imaginary? Nature, as a term, is difficult to separate from socioeconomic practices like neoliberalism. Neoliberalism has come to dominate social and economic discourse and practice on national and global scale, becoming the, “common-sense way many of us interpret, live in, and understand the world.” (Harvey, 2011: 3), including the environment. This neoliberal perspective, exacerbates and perpetuates the nature vs. society dualism, a “hyper-separation” (Gibson-Graham et al, 2016: 704), that has accompanied practices of western “progress” and “modernity”, serving to divide humans from the natural world in definition, theory and practice. While this economically based view of nature is still prevalent, a burgeoning body of literature and research seeks to theorize and promote nature as dynamic and plural (Anderson, 2004; Bingham and Hinchcliffe, 2008; Lorimer, 2012; Latour 2004, 2011; Massey, 2005; Raffles, 2003; Hooks, 2009).

Academic literature on neoliberal natures tends to follow one of two paths: 1. a more traditional, or economically based, approach reiterate the human and nature divide; or 2. approaches that consider nature(s) as plural and encompassing of complex human and MtH relations. Traditional scholarship on capitalist/neoliberal nature portrays nature as a product of capitalism where humans and their subjectivities are considered separate from nature and in which nature is singular, homogenous, and timeless (Bingham and Hinchcliffe, 2008: 83). This limited and divisive definition of nature has underpinned the economic valuing and extraction of the resources found in these spaces. Within capitalist and neoliberal economic and cultural systems, humans and MtH are read through commodified landscapes of consumption and production, a valuing system that reinforces

a human-MtH separation and a clear distinction between society on the one hand, and nature on the other. Moreover, within this view, there exist two seemingly oppositional representations of nature: The first is of nature as, “unpeopled, eternal, and pristine” (Wilson, 2014: 99). In this view, *nature* is a “a pure and timeless collection of objects, best removed from Society.” (Lorimer, 2012: 594). This view promotes nature as singular, monolithic, and static. The second is of nature as capitalist commodity. The main impact that neoliberal and capitalist practices have had on *nature*, is in separating it conceptually from humans in order to best use its resources, whether for extractive purposes or preservation purposes (McCarthy and Prudham, 2003; Bakker in Braun, 2015; Braun, 2008; Braun, 2015; Haraway, 2008, 2016). Braun explains that, “There is little sense of nature having its *own* productivity outside, beyond, before or beneath neoliberal projects, nor that it might have a volatile or unpredictable nature that at once subtends, exceeds and disrupts human life.” (Braun, 2015: 5).

Contemporary scholars across the social sciences, in contrast, discuss nature as multiple, heterogeneous, dynamic, and placed, as *natures* (Anderson, 2004; Bingham and Hinchcliffe, 2008; Lorimer, 2012; Latour 2004, 2011; Massey, 2005; Raffles, 2003; Hooks, 2009). There is a push for, “freeing up nature” (McCarthy and Prudham, 2003: 277). Instead of there being a divide between humans and MtH natures, what exists are *nature-society hybrids* (Grove, 2009: 207). As Gibson-Graham contend, “There is a choice to be made as to whether the environment is represented as a resource for human consumption or as a vibrant complex of interconnected communities of living and non-living things with the will to flourish” (Gibson-Graham et al, 2016: 706). And, as opposed to the imaginary of one static and unchanging perception of nature, what truly

exists are natures, plural. Natures are multiple and are interpreted differently by each human engaging in that place (Allen-Collinson and Leledaki, 2015: 458). And these *natures* have agency; nature is not a static landscape that places “constraints upon human action” as portrayed by neoliberalism (Bakker, 2010: 717). Within this view, nature and human existence, experience, and subjectivities, are all connected (Castree, 2012; Braun, 2006). Shifting nature to natures (that include human and MtH) challenges the human vs. nature binary established through capitalist and neoliberal discourse and practice.

The process of, what Bingham and Hinchcliffe call, ‘reconstituting natures’, is not simple, but is necessary in order to show that the reality of natures is plural (Bingham and Hinchcliffe, 2008: 85). Viewing natures as fluid and diverse, necessitates an acceptance for “messiness” (Bell et al, 2017: 142) in theory and research in that clear categories and delineations do not always exist. Allowing for multiple natures, recognizes natures as process-oriented and dynamic instead of static and stagnant (Lorimer, 2012: 602). This view of natures opens possibilities for more than capitalist valuations of natures to come to the fore. As opposed to the western capitalocentric valuations of MtH natures as commodity, more than capitalist valuations account for the valuations occurring on the ground and with the ground, made with natures as MtH co-actors and co-producers (Miller, 2019; Gibson-Graham et al, 2016; Gibson-Graham, 2006; Gibson-Graham & Roelvink, 2009; Roelvink, 2016). Therefore, questioning the neoliberal definitions and valuations of natures allows for illumination of the, “multiple trajectories along which any ecology might evolve and the various ways in which they can be sensed, valued, and contested.” (Latour, 2004).

*More-Than-Human Geographies:*

Theorizing more-than-human action historically is not new (ex. Husserl's phenomenology in the early 20<sup>th</sup> century), however a range of contemporary scholars are creatively theorizing MtH and defining the term<sup>4</sup> in varied manners (Barlett, 2005; Bennett, 2001 & 2010; Basso, 1996; Bell & Instone, 2017; Braun, 2006; Castree, 2012; Fishel, 2019; Haraway, 2008 & 2016; Howe, 2015; Kohn, 2013; Lowenhaupt-Tsing, 2005 & 2015; Raffles, 2002; Tsing, 2017). A working definition for more-than-human, within the context of this investigation is: Any existing life and non-life, whether biological organisms or human constructions.

More than human geographic literature provides a framework to understand the plural aspects of nature, and, in particular, the complex relationships that exist at the supposed human and nonhuman interface. MtH geography considers 'nature' not merely as an object but also as participant and actor and sees humans and the MtH as co-productive of one another and of place. MtH geographies recognize the Anthropocene as, "a time of unprecedented human imprint on the planet's bio-, litho-, cryo-, aqua-, and atmosphere." (Howe, 2015: 4) in which it is no longer possible to feign that there is separation between human actions and the impacts on the more than human of the planet, in theory or in practice. Humans no longer have the luxury of theorizing that they are separate from the natures in which they exist and subsist. In this vein, Braidotti defines the Anthropocene as, "a multilayered posthuman predicament that includes the

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<sup>4</sup> Term variations for MtH are: beyond human, post-human, non-human, other-than-human, etc., which perpetuate the human-MtH divisions and anthropocentric focus. This paper does not promote or promulgate these divisions and employs the term, more-than-human. While this research discusses human-MtH, conceptually, humans are part of and included in MtH, hence this term choice, "more-than-human" instead of "non-human".

environmental, socio-economic, and affective and psychic dimensions of our ecologies of belonging.” (2019: 32). Researchers in this time must think more creatively in the ways we analyze and the way we ask questions in order to “account for multispecies attachments”, and, “resist some of the environmentally and socially destructive effects of contemporary industrial culture and economic globalization.” (Barlett, 2005: 1). Creative theorizing is occurring with MtH “messy” methods that encourage participants and researchers to explore novel and site specific means of getting at and representing MtH actors and agency more effectively and more accurately. Meeting calls for “experimental researchers” (Gibson-Graham & Roelvink, 2009: 320), MtH methods researchers are innovating methods that make space for MtH experience to be engaged with and “witnessed” (Bell et al, 2017) in new ways. For example, auto-ethnography and sensory ethnography encourage processes of “being affected” (Humberstone, 2013) and “enchantment” (Bennett, 2001) that are evidence of MtH actors and co-productions. MtH methods are explored in greater detail within paper three presented here, *Participant auto-ethnographic trail journals: representing more-than-humans through embodied experiences of nature-based recreators*.

These MtH approaches provide alternatives to the anthropocentric norms of practice that consider humans as the only possible actor or subject, around which all else (as a world of objects) revolves. Within MtH theory and practice, MtH actors are recognized for their “constitutive” roles instead of being considered just “contextual” (Howe, 2015: 206) which directly and indirectly combats the human vs. nature dualism common within the western narratives of modernity and progress embedded within capitalism and neoliberalism. In so doing, MtH scholars present human and MtH as



interconnected and co-productive of one another (Bennett, 2010; Braun, 2008; Haraway, 2016; Kohn, 2010; Lowenhaupt-Tsing, 2005, 2015). Couched within each MtH discussion is a turn towards the spatialization of humans and their subjectivities. A central component of neoliberal policies and cultures is to present humans and resources as placeless, as disconnected and uprooted from places and geographies (Agrawal, 2005; Bennett, 2010; Braun, 2006; Gibson-Graham, 1996 & 2006; Haraway, 2016; Harvey, 2011; Hesketh, 2016). This pattern of dislocating human and MtH from place is advantageous for resource extraction, monetary gain, creating mobile workforces and ecological resources, and to de-stabilize local economies. These characteristics of neoliberalism serve to dis-embed people and non-people from places. MtH theorizing/research, helps to “represent an economy as a space of negotiated interdependence rather than a functional (or dysfunctional) growth machine. They also offer a tool for discerning an emerging economic order and participating in its performative consolidation” (Gibson-Graham & Roelvink, 2009: 335).

*Place and embodiment in recreation:*

As explained in the previous section, place is an important concept through which geographers have framed human-MtH relationships. Modernity and capitalism/neoliberalism have served to not only theoretically and physically separate humans from natures, but also to dislocate humans from place materially and symbolically. In efforts to confront the homogenizing “universal claims” of neoliberalism, scholars recognize the diversity of ways that people are grounded in this

world through place connections and experiences (Braidotti, 2019: 34), especially in embodied and sensory ways, thus stressing focus on the ways that people “know their landscapes”, how they, “...embrace the countryside and find the embrace returned.” (Basso, 1996: 106). This research, thus, recognizes that embodied connections to the MtH world constitute an important way that recreators experience sense of place. Humans are connected to the MtH in place and through the construction of place (Basso, 1996; Lee, 2011; Allen-Collinson & Leledaki, 2015; Massey, 2005). As Gibson-Graham and Roelvink contend, “We are at the brink, in this welcoming posture, of recognizing earth others as not-other than ourselves; and we are just a hair’s breadth away from acknowledging our co-constituted being as body-world.” (Gibson-Graham & Roelvink, 2009: 324).

The dislocating characteristics of the Anthropocene are also disembodied and have theoretically and culturally distanced humans from their own bodies, senses, recreations, and play occurring in and through place (Braun, 2006). Rather, culture and knowledge are embodied, and built via the sensory experience (Parviainen & Aromaa, 2017: 478), prime focus of visceral geographies. Visceral geographies explore the interconnections of the biological environment, affects, bodily and embodied experiences, and material and immaterial components of existence (Hayes-Conroy, 2017: 52). Visceral geographies encompass embodied and sensory theory and practice from across disciplines. Fitting into this category of visceral geographies, scholars explore the experience of natures via sensing, embodiment, and body movement (Allen-Collinson & Hockey, 2010; Humberstone, 2011; Brown, 2014; Gallagher et al., 2017; Paterson, 2009, Pile, 2010). One way that scholars have theorized the disembodied character of the

Anthropocene is through notions of movement, the speed and method by which people pass thru places. How one moves, then, is a way of knowing places (Poe et al, 2014: 910). Some scholars exploring human embodiment in regards to the “the lived experience of exercise and physical cultures” are taking “phenomenologically-inspired perspectives” that address, “the effects of social-structural and cultural location upon our lived-body experiences.” (Allen-Collinson, 2017: 66). For example, Allen-Collinson explores the ways that people give weather meaning, the ways that they create and hold “emotional attachments” to weather experienced during physical exercise (66). Other scholars like Singh, follow Spinoza’s (2000) lead to consider human subjectivities, senses, and embodiment in places. The body, in Spinoza’s work, is defined by its affectual relations with ever changing natures (Singh, 2013: 191). In Spinozian optics, “the boundaries between the ‘self’ and the environment are porous, and that human subjectivity is shaped by a human beings’ engagement with its total environment, not just its social environment.” (Singh, 2013: 191). Exploring the nature-based movement and sensory experience is one avenue of making visible MtH relations and “engagements”, or the *person-place co-ingredient* (Mohan in Anderson, 2004: 260) that people have with MtH (Humberstone, 2013; Anderson, 2004). Allen-Collinson and Hockey further examine the “bodily ways of knowing” by examining the “multi-sensory” experience, or the “haptic lived experience” of various sporting practitioners (Allen-Collinson & Hockey, 2010: 334). They explore the ways in which human sensing of the environment during body movement creates knowledge specific to each body and each physical place. Body knowledge, according to Lawrence’s (2012) definition is: ‘a reflective process coming from the physical sensations and an increased bodily awareness’” (Parviainen & Aromaa,

2017: 478). Body awareness via all means of sensing is a central way by which culture is made and carried (Allen-Collinson & Hockey, 2010: 333). And the “Euro-American” limited definition of the, *classic five senses* (sight, sound, smell, taste and touch) do not account for other equally important ways that humans sense and make sense of the world (such as body movement, pain, etc.) (Allen-Collinson & Hockey, 2010: 333).

Nature-based movement specialist, Barbara Humberstone, focuses on relations of recreation as well, calling attention to the ways that a sense of self is created in nature through purposeful human movement-based interaction with the MtH. The relationships created in particular places through particular movements demonstrate, “the complex relationships through which the body ‘learns’ to be in the natural environment, how it ‘embodies’ nature and how or if environmental awareness becomes embodied.” (Humberstone, 2013: 268). Humberstone’s notion of, *embodiment*, is one means by which the “sensuous interrelationship of body-mind-environment” can be understood (Humberstone, 2013: 268). These *interrelationships* are evidence of making place through *embodied adventurous practices in nature* (Humberstone, 2013: 269). The “vulnerability” that humans experience as their bodies are performing in these natural spaces, fosters “kinetic empathy” (theory originally from Thrift, 2008) that may, according to Thorpe and Rinehart (2010:1268) have potential to highlight the “affective and affecting” lived experiences of research partners (Humberstone, 2013: 269). Gibbs and Holloway discuss the “ongoing co-productions of experience landscapes” in which “users not only share *physical* space, but also the *mental* and *virtual* spaces of shared lifestyles and common (sub-cultural) identities.” (2018: 252). Acknowledging the ways in

which subjectivities are forged within place is necessary for understanding how Americans come to relate to their public lands.

***Methods and Research Design:***

This qualitative research focuses on no-fee USFS single-track trailheads throughout the Humboldt-Toiyabe National Forest within 30 miles of the Reno/Carson areas. Trails and trailheads were selected in order to recruit a wide and diverse human and MtH experiences. These were chosen for their accessibility for a wide variety of recreators, the ease of access from a variety of metropolitan areas (Reno, Carson, Truckee, Sacramento, etc.), the lack of fees charged for parking, the multi-use status that allows for multiple forms of recreation, and the USFS land designation that offers recreation as one of its predominant uses declared by the US Department of Agriculture.

***Methods:***

This qualitative research relied on several key methods: questionnaire, journal, interview, and photo-elicitation (Pink, 2015) and data was collected from June 2019 to February 2021. Preliminary field research for this project ran from July through September 2019, during which 95 questionnaires were gathered with 39 of these respondents volunteering their contact information to participate in follow-up interviews and journaling. Questionnaires were completed by trail users on a self-selected volunteer basis and consisted of all “open questions” (McGuirk and O’Neill *in* Hay, 2010:195) focused on themes of why people visit public lands and how they feel about these lands. From the 39 respondents, 14 participants were recruited for the interview, journaling, and

photo-elicitation portions of the research. Participants ranged in age from 27-78 and practice multiple forms of nature-based recreation on USFS trails: hiking, walking, trail running, mountain biking, snowshoeing, skiing. They are full-time residents of Reno, NV, Carson, NV, and Truckee, CA. The qualitative methods used here did not ask for participant occupation but throughout the qualitative methods, participants volunteered this information. Participants include University of Nevada students, University of Nevada Employees, service/entertainment industry workers, state department employees, authors/writers, artists, and consultants.

The COVID-19 pandemic greatly impacted the methods employed for this research as it limited human to human contact. This removed possibility for participant-observation and mobile methods, as traditionally defined. When selecting methods, it was important to enact methods that would be able to best get at human and MtH co-productions in these nature-based settings. Throughout the main research period, each participant participated in the following: a short, introductory questionnaire by email that asked basic questions regarding frequency and type of public land access, an initial one-hour telephone interview, 1-2 month period of trail journals (hand-written, typed, audio record) guided by open and general prompts and including photo-elicitation (Pink, 2015: 90), and a one hour closing Zoom interview.

This project was designed to collect data over time so that participants had ample opportunity to journal and reflect on their experience. Upon consenting to participation, I e-mailed an introduction packet to each participant that included: a brief description of the project and its purpose, what participants can expect with regard to timeline and tasks, the IRB human subjects waiver, and a short set of questions regarding basic demographic

information, trail use purpose/frequency and main mode of recreation/access. Upon completion of the initial questionnaire, I conducted semi-structured telephone interviews where I asked 17 broad questions regarding participant definitions and perception of nature on the trails, belonging in the trail space, their physical movement and body in the trail space, and their personal history with US public lands. During this interview, instructions for journaling were also given. Participants were asked to keep a journal for approximately 4 weeks and provide entries at least once per week. I provided several prompts to focus the exercise. These prompts addressed: socioeconomic valuation on the trail, how nature is experiencing them on the trails, impact of physical contact with the trail, and sensory experiences on the trail. Participants were asked to journal before, during, and/or immediately after trail use. I also asked that participants take one or more photographs of their trail experiences that exemplify their relationship to the trail. The method of photo-elicitation (Pink, 2015) is the inclusion of participant selected photographs within journal contexts or as stand-alone methods. These give participants yet another avenue of communicating their trail experiences outside of writing or speaking, accessing the, “provocative power of images” to “reflect” on their MTH trail experiences (Pitt, 2014: 52). I checked in with participants midway through their journaling periods via email communications. At the end of this period, participants submitted their journal entries to me via email submission. Participants were also given the option to journal via video or voice recording methods as opposed to or in conjunction with written journal responses. The majority of journal entries were submitted as digitally typed documents, however, there were also digital audio recordings that were submitted.

Following the journaling period, I conducted semi-structured Zoom interviews with each participant that asked participants to reflect on their journaling experience and answer follow-up questions that get at how participants practice, perceive, and process their relationship to the USFS lands. The Zoom format was selected over telephone interview as it allowed for “real time” and “face to face” communication between researcher and participant, which allowed me to be more engaged sensorially in their interview responses and trail experiences.

*Data Analysis:*

Analysis of field data began with assembling notes and records from field data. During this phase, I created typed, real-time transcriptions of the opening telephone interview, and typed asynchronous transcriptions of the closing Zoom interview. Journals were submitted as word documents and digital audio files. I transcribed the audio files. For all data received, I practiced manual coding as recommended by Cope (Cope *in* Hay, 2010: 285) in which I pulled main quotes from the data and sorted them within Excel files. I was then able to associate relevant key terms to each quote. I used these excel files in combination with revisiting the original data files that provided context of participant experience to draw conclusions regarding human participant embodied relations with MtH within USFS trail places.

*Ethical Considerations:*



Participants are not identified by name in the recording, analysis, and communication of data. They are given the option to select their own pseudonyms and some participants chose to use their own name. All information regarding the project is disclosed to the participants. They have access to their own information at any point of the study. As per Dunn's recommendation, this project practices *participant checking* that allows participants to be involved in the study even after their interviews are completed (Dunn *in* Hay, 2010 :123). Participants were given the option to journal via video or voice recording methods as opposed to using written journal responses. Hard copies of journals, questionnaires and interviews were stored in a locked cabinet in my office. Digital files were stored on password protected files on the computer.

### Works Cited:

- Agrawal, A. (2005). Environmentalism: community, intimate government, and the making of environmental subjects in Kumaon, India. *Current Anthropology*, 46(2). 161-190.
- Allen-Collinson, J. (2018). 'Weather work': embodiment and weather learning in a national outdoor exercise programme. *Qualitative Research in Sport, Exercise and Health*, 10(1). 63-74.
- Allen-Collinson, J. & Hockey, J. (2010). Feeling the way: Notes toward a haptic phenomenology of distance running and scuba diving. *International Review for the Sociology of Sport*, 46(3). 330-345.
- Allen-Collinson, J. and Leledaki, A. (2015). Sensing the outdoors: a visual and haptic phenomenology of outdoor exercise embodiment. *Leisure Studies*, 34(4). 457-470.
- Anderson, J. (2004). Talking whilst walking a geographical archaeology of knowledge. *Area*, 36(3). 254-261.
- Baden, J.A. and Snow, D. (1997). *The Next West: Public Lands, Community, and Economy in the American West*. Washington DC: Island Press.
- Bakker, K. (2010). The Limits of 'Neoliberal Natures': Debating Green Neoliberalism. *Progress in Human Geography*. 34(2010). 715-735.
- Bakker, K and Bridge G. (2006). Material Worlds? Resource Geographies and the 'Matter of Nature'. *Progress in Human Geography*, 30(2006). 5-27.
- Barlett, P. F. (2005). *Urban Place: Reconnecting with the Natural World*. Cambridge: MIT Press.
- Basso, K. (1996). *Wisdom Sits in Places: Landscape and Language Among the Western Apache*. Albuquerque: University of New Mexico Press.
- Bastian, M., James, O., Moore, N. and Roe, E. (eds). (2017). *Participatory research in more-than-human worlds*. New York: Routledge.
- Bell, S.J., Instone, L., & Mee, K.J. (2017). Engaged Witnessing: Researching with the more-than-human. *Area*, 28(50). 136-144.
- Bennett, J. (2001). *The Enchantment of Modern Life: Attachments, Crossings, and Ethics*. Princeton: Princeton University Press.
- Bingham, N. and Hinchcliffe, S. (2008). Biosecurity: Spaces, practices, and boundaries. *Environment and Planning A*, 40(2008). 1528-1533.
- Boyd, F., White, M.P. et al. (2018). Who doesn't visit natural environments for recreation and why: A population representative analysis of spatial, individual and temporal factors among adults in England. *Landscape and Urban Planning*, 175(July 2018). 102-113.
- Braidotti, R. (2019). A theoretical framework for the critical posthumanities. *Theory, Culture, & Society*, 36(6). 31-61.

- Braun, B. (2006). Environmental issues: global natures in the space of assemblage. *Progress in Human Geography*, 30(5). 644-654.
- Braun, B. (2008). Environmental issues: inventive life. *Progress in Human Geography*, 32(5). 667-679.
- Braun, B. (2015). New materialisms and neoliberal natures. *Antipode*, 47(1). 1-14.
- Brown, Katrina M. (2014). Spaces of play, spaces of responsibility: Creating dichotomous geographies of outdoor citizenship. *Geoforum*, 55(2014). 22-32.
- Brown, K. (2015). Leave only footprints? How traces of movement shape the appropriation of space. *Cultural Geographies*, 22(4). 659-687.
- Brown, K. (2017). The haptic pleasures of ground-feel: The role of textured terrain in motivating regular exercise. *Health & Place*, 46(2017). 307-314.
- Brown, J and Lane, S. (2019). How the Trump Administration is Shaping the Future of America's Public Lands. *PBS.org*. <https://www.pbs.org/newshour/show/how-the-trump-administration-is-shaping-the-future-of-americas-public-lands>
- Castree, N. (2012). *Making Sense of Nature*. London: Taylor and Francis.
- Clayton, J. (2019). *Natural Rivals: John Muir, Gifford Pinchot, and the Creation of America's Public Lands*. Cambridge: Pegasus.
- Deming A.H. and Savoy, L.E. (2011). *The Colors of Nature: Culture, Identity, and the Natural World*. Minneapolis: Milkweed.
- Finney, C. (2014). *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors*. Chapel Hill: The University of North Carolina Press.
- Fishel, S.R. (2019). Of other movements: nonhuman mobility in the Anthropocene. *Mobilities*, 14(3). 351-362.
- Foucault, M. (1981). *The History of Sexuality*. Hammondsworth: Penguin Books.
- Gallagher, M., Kanneiser, A., et al. (2017). Listening geographies: Landscape, affect and geotechnologies. *Progress in Human Geography*, 41(5.), 618-637.
- Gibbs, D., and Holloway, L. (2018). From experience economy to experience landscape. *Area*, 2018(50). 248-255.
- Gibson-Graham, J.K. (2006). *A Postcapitalist Politics*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K., Cameron, J., and Healy, S. (2015). *Take back the Economy*. Minneapolis: University of Minnesota Press
- Gibson-Graham, J.K. and Roelvink, G. (2009). An economic ethics for the Anthropocene. *Antipode*, 41(1). 320-346.

- Gibson-Graham, J.K., Hill, A. and Law, L. (2016). Re-embedding economies in ecologies: resilience building in more than human communities. *Building Research and Information*, 44(7). 703-716.
- Golden Kroner, R.E. et al. (2019). The uncertain future of protected lands and waters. *Science*, 364(6443). 881-886.
- Griffin, A.L. (2001). Feeling it out: the use of haptic visualization for exploratory geographic analysis. *Cartographic Perspectives*, 39(Spring). 12-29.
- Grove, K. (2009). Rethinking the nature of urban environmental politics: Security, subjectivity, and the non-human. *Geoforum*, 20(2009). 207-216.
- Haraway, D. (2008). *When Species Meet*. Minneapolis: University of Minnesota Press.
- Haraway, D.J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press.
- Harvey, D. (2005). *Spaces of Global Capitalism: A theory of uneven Geographical Development*. London: Verso.
- Harvey, D. (2011) *Neoliberalism*. Oxford: Oxford University Press.
- Hesketh, C. (2016). The survival of non-capitalism. *Society and Space*, 34(5). 877-894.
- Hay, I. (2010). *Qualitative Research Methods in Human Geography*. Oxford: Oxford University Press.
- Hayes-Conroy, J. and Hayes-Conroy, A. (2010). Visceral Geographies: Mattering, Relating, and Defying. *Geography Compass*, 4/9 (2010). 1273-1283.
- Hayes-Conroy, Sexton, A.E., Sweet. E.L. et al. (2017). Better than text? Critical reflections on the practices of visceral methodologies in human geography. *Geoforum*, 82(2017). 200-201.
- Hesketh, C. (2016). The survival of non-capitalism. *Society and Space*. 34(5). 877-894.
- Hooks, B. (2009). *Belonging*. New York: Routledge.
- Howe, C. (2015). Lifeaboveearth:AnIntroduction. *Cultural Anthropology*, 30(2). 203-209
- Humberstone, B. (2011). Embodiment and social and environmental action in nature-based sport. *Leisure Studies*, 30(4). 495-512.
- Humberstone, B. (2013). Adventurous activities, embodiment and nature: Spiritual, sensual and sustainable? Embodying environmental justice. *Motriz*, 19(3). 565-571.
- Ketcham, C. (2019). *This Land: How Cowboys, Capitalism, and Corruption are Ruining the American West*. New York City: Viking Press.
- Kohn, E. (2013). *How Forests Think: Toward and Anthropology Beyond the Human*. Berkeley: University of California Press.

- Kosek, J. (2006). *Understories: The Political Life of Forests in Northern New Mexico*. Durham: Duke University Press.
- Latour, B. (2004). *Politics of Nature: How to Bring the Sciences into Democracy*. Cambridge: Harvard University Press.
- Latour, B. (2011). From multiculturalism to multinaturalism: What rules of method for the socio-scientific experiments? *Nature + Culture*, 6(2011). 1-17
- Lau, J. and Scales, I.R. (2016). Identity, subjectivity and natural resource use: How ethnicity, gender and class intersect to influence mangrove oyster harvesting in The Gambia. *Geoforum*, 69(2016). 136-146.
- Lorimer, J. (2012). Multinatural Geographies for the Anthropocene. *Progress in Human Geography*, 36(5). 593-612.
- Lowenhaupt-Tsing, A. (2005). *Friction: An ethnography of global connection*. Princeton: Princeton University Press.
- Lowenhaupt Tsing, A. (2015). *The Mushroom at the End of the World: on the possibility of life in capitalist ruins*. Princeton: Princeton University Press
- Massey, D. (2005). *For Space*. Los Angeles: Sage.
- McCarthy, James and Scott Prudham. (2003). Neoliberal Nature and the Nature of Neoliberalism. *Geoforum*, 35(2003). 275-283.
- Miller, E. (2019). *Reimagining Livelihoods: Life Beyond Economy, Society, and Environment*. Minneapolis: The University of Minnesota Press.
- Mills, J. E. (2014) *The Adventure Gap: Changing the Face of the Outdoors*. Seattle: Mountaineers Books.
- Minor, J. and Boyce, G.A. (2018). Smokey Bear and the pyropolitics of United States forest governance. *Political Geography*, 62(2018-1). 79-93.
- Moore, R. (2016). *On Trails: An Exploration*. New York: Simon and Schuster.
- Parviainen, J. & Aromaa, J. (2017). Bodily knowledge beyond motor skills and physical fitness: a phenomenological description of knowledge formation in physical training. *Sport, Education and Society*, 22(4). 477-492.
- Paterson, M. (2009). Haptic geographies: ethnography, haptic knowledges and sensuous dispositions. *Progress in Human Geography*, 33(6). 766-788.
- Pile, S. (2010). Emotions and affect in recent human geography. *Transactions of the Institute of British Geographers*, 35(1). 5-20.
- Pink, S. (2015). *Doing Sensory Ethnography: 2<sup>nd</sup> Edition*. Los Angeles: Sage.
- Pitt, H. (2014). On showing and being shown plants – a guide to methods for more-than-human geography. *Area*, 47(1). 48-55.

Poe, M.R., LeCompte, J., et al. (2014). Urban foraging and the relational ecologies of belonging. *Social and Cultural Geography*, 15(8). 901-919.

Raffles, H. (2002). *In Amazonia*. Princeton: Princeton University Press.

Robbins, J. (2019). Open for Business: The Trump Revolution on America's Public Lands. *Yale.edu*. <https://e360.yale.edu/features/open-for-business-the-trump-revolution-on-public-lands>

Rosa, C.D. et al. (2019). Nature-based recreation associated with connectedness to nature and leisure satisfaction among students in Brazil. *Leisure Studies*, 38(5). 682-691.

Roelvink, G. (2016). *Building dignified worlds: geographies of collective action*. Minneapolis: University of Minnesota Press.

Roelvink, G., St. Martin, K., and Gibson-Graham, J.K. (2015) *Making Other Worlds Possible: Performing Diverse Economies*. Minneapolis: The University of Minnesota Press.

Savoy, L. (2015). *Trace: Memory, History, Race, and the American Landscape*. Berkeley: Counterpointe.

Sedgwick, E.K. (2003). *Touching Feeling: Affect, Pedagogy, Performativity*. Durham: Duke University Press.

Singh, N.M. (2013). The affective labor of growing forests and the becoming of environmental subjects: Rethinking environmentality in Odisha, India. *Geoforum*, 47(2013). 189-198.

Stinson, J. (2017). Re-creating wilderness 2.0: or getting back to work in a virtual nature. *Geoforum*, 79(2017). 174-187.

Tsing, A. and Swanson, H. et al. (2017). *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.

Wilson, R.K. (2014). *America's Public Lands: From Yellowstone to Smokey Bear and Beyond*. Boulder: Rowman and Littlefield.

Outdoor Industry Publication, *The Outdoor Recreation Economy, 2017*, [www.outdoorindustry.org](http://www.outdoorindustry.org)

## **2. Paper 1: Visceral Value: nature-based recreation and embodied more-than-capitalist practices with/in USFS trails**

**Abstract:** Currently discourse and practice of “value” tends to carry capitalist assumptions. US Forest Service lands demonstrate disparities in valuation between the structural capitalist valuations of US Forest Service lands and the embodied valuations expressed by nature-based recreators within the same places. Valuing USFS lands through a capitalist lens does not account for the *more-than-capitalist* (MtC) valuations occurring within these sites and has encouraged large scale sale and reduction of these lands for commercial and extractive purposes. This paper argues that nature-based recreators value natures via more-than-capitalist strategies in the Humboldt-Toiyabe National Forest in the Reno/Carson City, NV areas. Economic valuations often fail to express the complex and dynamic values of natures. This paper aims to present some of the forms of value that exist alongside, within, and in spite of capitalism. This paper develops the concept of, *visceral value*, to present certain forms of MtC valuations that occur via embodied experience of nature-based recreation within USFS trailplaces. Rescaling the assessment of value from that of structural capitalocentric valuations to the site of the individual recreator body, directly confronts capitalocentric urges to universalize all used/usable/potential resources into monetary/extractive/production/labor use-values. Trail recreator data demonstrates visceral valuations of USFS trail places in two categories: visceral valuations in physical, mental, and whole self; and visceral valuations in *being affected*.

## Introduction:

Huber writes that, “the question of value is at the center of our global ecological crisis”. (Huber, 2018: 148). Valuations of natures are often defined within capitalocentric frameworks of material use and extraction (Braun, 2003, 2006, 2008, 2015; Bakker, 2005; Bingham and Hinchcliffe, 2008; Castree, 2014; Gibson-Graham et al, 2015; Hesketh, 2016; Kosek, 2006; Lowenhaupt-Tsing, 2015; McCarthy and Prudham, 2004; McKibben, 2007; Proctor, 2013). Nature-based recreators<sup>5</sup> offer valuations of natures that take different form. This can be attributed to the ways that nature-based recreators practice outdoor recreation in nature<sup>6</sup> settings where they are in direct intimate contact and connection with the natural elements and surroundings (Humberstone, 2013: 496-497). This paper argues that recreators value natures via more-than-capitalist (MtC)<sup>7</sup> strategies in the Humboldt-Toiyabe National Forest in the Reno/Carson City, NV areas. Following more than capitalist and weak theory approaches that understand “value” as an open construct inclusive of myriad practices, bodies, and actors (see Gibson-Graham, 2006; Miller, 2019; Roelvink, 2016), *value*, is generally defined here as perceived, experienced, and reported worth of

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<sup>5</sup> *Nature-based recreation (NBR)* stems from leisure, sport and tourism sciences (See Dorwart et al., 2009; Rosa et al., 2019; and Remacha et al., 2011). Similar term, *nature-based movement* is term employed by Barbara Humberstone (2011, 2013).

<sup>6</sup> While acknowledging the complicated political and historical contexts associated with the socioeconomic creation and use of the term, *nature* (Bingham and Hinchcliffe, 2008; McCarthy & Prudham, 2004; Braun, 2006 & 2008; Lorimer, 2012; Bakker, 2010; Brown, 2014), I use the term, *nature/s*, to refer to the USFS biological environments that contain minimal human created urban infrastructures and are inclusive of humans as one of many more-than-human relational actors (Gibson-Graham et al, 2016; Stinson, 2008; Howe & Morris, 2009). This paper does not attempt to present these “wild” spaces as unpeopled or separate from human influence, it is the human engagement within these spaces via nature-based movement and recreation that allows for this investigation into the MtC valuations of these lands.

<sup>7</sup> More-than-capitalist (MtC) (See Bastian, 2017) represents any and all socioeconomic practices, including capitalisms. Similar terms currently are: non-capitalist, other-than-capitalist, alternative economies. However, these tend to reinforce the totalizing imagery of capitalist dominance as well as the dichotomies of capitalism vs. all other socioeconomic practices. Instead, *more-than-capitalist*, accounts for the co-existence of multiple socioeconomies simultaneously within the same spatio-temporal contexts. (See Gibson-Graham, 2006; Roelvink, 2015; Miller, 2019; Braun, 2008).



the material and immaterial. More specifically, MtC *value* is: the intrinsic and relational worth determined and practiced by embodied and emplaced subjects, human and more-than-human (MtH)<sup>8</sup>, who are embedded within their own socio-geographic contexts. Layla, trail recreator and employee within the Humboldt-Toiyabe National Forest, shares the difficulty US public land management agencies are confronting when attempting to take stock of the MtC valuations of US public lands:

Nobody is able to describe what the value of our public lands are, we just keep struggling at it, and we are collecting data from all the state agencies on participation rates...trying to find ways to draw that value. Of course its valuable, it's kinda tough but it has to have some fundamental aspects that can be quantified ..or it won't get put into use....[for example] Norwegian friluftsliv...[is] a Norwegian cultural phenomena and they really believe that being in nature is vital to their life and they incorporate volunteering to do things in nature as vital to their life and this centeredness around nature...even more esoteric than just saying, trails are really valuable. If you look at it [as] a cultural phenomenon, there's all kinds of things we can't quantify that are necessary for our culture, no one asks about it, no one questions it....." (Layla, Interview 1, 11/30/2020)

Layla problematizes the differing (yet overlapping) valuation systems on US public lands. US public lands have traditionally been valued monetarily by national and corporate structures in the US, often facilitating designation removal, sale, and overextraction of

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<sup>8</sup> Working definition for more-than-human is: any life and non-life, both biologically existing or of human construction. MtH encompasses *all* beings and material components, whether in “natures” or urban settings. MtH space is “constitutive” not just “contextual” (Howe, 2015: 206) in human experiences. Scholars term, theorize, and define *more-than-human* in varied manners ( ie. post-human, non-human, beyond human, other-than-human, etc.) (See Barlett, 2005; Bennett, 2001 & 2010; Basso, 1996; Bell et al., 2017; Braun, 2006; Castree, 2012; Fishel, 2019; Haraway, 2008 & 2016; Wilkinson et al, 2020; Howe, 2015; Kohn, 2013; Lowenhaupt-Tsing, 2005 & 2015; Raffles, 2002; Tsing, 2017). These terms connote oppositional relationships between humans and MtH, perpetuating human-centered focus, which this paper does not promote. “More-than-human” is employed here due to its inclusionary connotations- considering humans as part of, not separate from MtH.

natural resources. The tension between these disparate scalar valuations of public lands demonstrate what Gibson-Graham (2006) refer to as a core tension of “capitalocentrism”. *Capitalocentrism*, as a process, “distributes positive value to those activities associated with capitalist economic activity, however defined, and assigns lesser value to all other processes of producing and distributing goods and services by identifying them *in relation* to capitalism as the same as, the opposite of, a complement to, or contained within.” (Gibson-Graham, 2006: 56). Capitalocentrism functions via the abstraction and quantification of value in narrowly monetary terms, attempting to establish monetary “equivalence” between unlike goods, ideas, and services (Chomsky and Waterstone, 2021; Comaroff and Comaroff, 2001; Harvey, 2005, 2006, 2017; Henderson, 2013; Parker, 2018; Miller, 2019). This tendency towards capitalocentric valuations of nature have been covered in detail by economists, geographers, and anthropologists (see McCarthy & Prudham, 2004; Moore, et al, 2003; McKibben, 2007), as have the resulting destructive and unsustainable impacts for natures and humans (Plehwe et al, 2020; Barlett, 2005; Proctor, 2013; Gibson-Graham, 2006; Lowenhaupt-Tsing, 2005 & 2015).

In response to these deficit-based studies, scholars call for recognition of alternative ways of perceiving and valuing natures (Braun, 2003, 2006, 2008, 2015; Haraway, 2008; Roelvink, 2015; Miller, 2019). Valuing natures in non-quantified or monetized ways is not new. Layla describes above, *friluftsliv*, Norwegian lifeway that is equated with the English term, *nature-based outdoor recreation* (Beery, 2013: 94), and consists of, “connecting nature and humans as equal elements.” (Anderson and Rolland, 2018: 362). Within *friluftsliv*, the cultural norms of humans and natures co-experiencing are not quantified, yet, are considered of immeasurable value within their cultural system- an example of the

ways in which human relationships with natures are valued without capitalist monetization or quantification. In a similar way, Humberstone theorizes nature-based mobilities, through which recreators, “may find values that are counter to capitalist consumption and sympathetic to nature not as resource but as ‘partner’” (Humberstone, 2011: 500).

In considering these forms of qualitative MtC valuations, this paper develops the concept of *visceral value*, which generally refers to the MtC valuations rooted in the embodied experiences of nature-based recreators<sup>9</sup> with/in and as part of natures. Visceral value stems from Miller’s (2019) concept of *instituting of incommensurability*, which highlights the wide variety of possible and existing means of valuating ‘resources’. Visceral valuations expose conflicting, yet coexisting, valuations of natures that are coexisting on various scalar levels within the USFS lands. Visceral value aids in shifting discourse and definitions of value from capitalocentric governing and corporate structures to that of the individual body- directly questioning capitalocentric urges to universalize all used/usable/potential resources into monetary/extractive/production/labor use-values.

These more-than-capitalist valuations are important to consider in relation to public lands, which are directly threatened by capitalocentric focus of value. This research expands discourse and practice regarding value, not only within nature-based and public lands contexts, but in any contexts in which MtC valuations are present and possible. It introduces discursive and practical forms of value produced by recreators through nature-

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<sup>9</sup> Participant mobilities with/in trail places discussed here are referred to as: nature-based movement-outdoor recreation that takes place in nature settings where the recreator is in direct intimate contact and connection with the natural elements and surroundings (Humberstone, 2013: 496-497), term employed directly by Barbara Humberstone (2011, 2013), stemming from leisure, sport and tourism sciences, nature-based recreation (See Dorwart et al., 2009; Rosa et al., 2019; and Remacha et al., 2011).

based recreation on public lands. Highlighting these underrepresented MtC valuations provides opportunities to understand value of these land spaces for more than their monetary “worth”, and expands valuations of these spaces beyond capitalocentric extraction.

The research discussed within this paper examines the MtC valuations practiced by nature-based recreators within the Humboldt-Toiyabe National Forest to provides examples of how MtC value may be researched and discussed in productive and representative ways without abstraction or translation into capitalist terms. While consciously not instituting numerical metric of evaluation here, this work encourages broadening of discourse and practice to focus on the non-monetary valuations occurring, contributing to Gibson-Graham’s (1996 & 2006) call to expand the database of existing and possible socioeconomic practices to dismantle capitalocentric dominance and represent realities of more than capitalist subjects/practitioners. This approach then, can be applied to various contexts in which MtC valuations are to be highlighted as means of establishing more holistic and representative systems of value, such as public land management agencies and scholars desiring to explore the MtC valuations of seemingly capitalocentric-dominant spaces.

Within this paper, I first survey theories of value within capitalocentric and more than capitalist perspectives, employing Miller’s, *instituting of incommensurability*, to propose MtC valuations of US public lands. I then present *visceral value* as a conceptual tool for representing the embodied and experienced ways in which nature-based recreators value USFS lands and trails. I then review background and methods for this investigation which employed various qualitative mixed methods including questionnaire, interview,

journal, and photo-elicitation. Following this, recreator data is highlighted here as two core principles of visceral value: visceral value in physical, mental, and whole self; and visceral value in *being affected*.

### **A Weak Theory Approach:**

More-than-capitalist (MtC) feminist political economists, Gibson-Graham, ask: “What if we theorized capitalism not as something large and embracing but as something partial, as one social constituent among many?” (Gibson-Graham, 1996: 260). MtC perspectives and theorizations create space for diverse economic “social constituents” and their unique valuation systems that coexist and overlap with one another, including pluralities of capitalism(s) and valuation systems. MtC offers a weak theory stance which allows for re-thinking scale, downsizing from structural homogenizing assumptions to focus on the inherent variations of individual practitioners and their local geographical sites (Sedgwick, 2003; Gibson-Graham, 1996 & 2006; Roelvink, 2016; Miller, 2019). As opposed to the strong, critical, and closed stances of traditional capitalocentric theorizing (see Gibson-Graham & Roelvink, 2009: 324), weak theory opens theory, discourse, and practice to the wide range of possible and existing more-than-capitalist valuations (Gibson-Graham, 1996: XIV), allowing for theorizing like Miller’s, *instituting of incommensurability*.

*Value Abstraction or instituting of incommensurability?*

Little has been researched regarding the MtC valuations occurring via visceral and mobile experiences in nature-based settings without employing capitalocentric abstraction. Abstraction, put simply, is a capitalist process that attempts to establish “equivalence” between goods and services of unlike form, where “resources” are monetized and converted into potential dollar amounts (Miller, 2019; Parker, 2018). This leads to what Miller refers to, as false value comparisons and quantitative measuring of *incommensurable* “multiple beings and becomings” (Miller, 2019: 205). Miller explains that these continued practices of abstraction also serve to dictate what and who is considered life and what and who is considered resource (2019: 203); in other words what is considered *valuable*.

Miller proposes that these capitalocentric tendencies towards monetary “measurement” should be confronted through MtC theorizing, strategizing, and applied practice. Specifically, one component of his weak-theory inspired package, Miller introduces *instituting of incommensurability*- the recognition of existing and possible human and more-than-human diversities and insistence that these “incommensurable” diversities be valued without abstraction (Miller, 2019: 205). This accounts for the experiences, goods, services, and relations that are incomparable and immeasurable, combatting capitalocentric urges towards streamlining of value into monetary representations and abstractions. Miller applies this concept to socioeconomic research with humans and their environments in rural Maine. He explains that, “In the hegemonic frame of ‘the economy,’ valuation is enacted via a monetary index, a rendering commensurable of all beings and relations in such a way that they can be ranked and compared.” (2019: 202-203). For example, one of his participants, director of an economic

development think-tank in rural Maine, explains that census data focused on poverty in Maine is not representative of the local residents who, according to the capitalocentric census are considered to be living in poverty. However, these residents do not consider themselves impoverished since they are “rich” in community health and social relationships. They are, “living in a value system that’s different than the national census value system” (Miller, 2019: 203) which is based on monetary income and value.

These tensions between capitalocentric and non-monetary valuing also exist within US public lands. Value, within capitalocentrism, is the arbitrary, relative, and fickle monetary “worth” placed on any perceivable or sellable “commodity” (human and MtH, material and immaterial) by the operations of capitalist markets (see Chomsky and Waterstone, 2021; Comaroff and Comaroff, 2001; Harvey, 2005, 2006, 2017; Henderson, 2013; Parker, 2018; Miller, 2019). When attempting to assess value of and on US public lands, it is common for national and corporate structures to translate incommensurable and immeasurable resources via abstraction, instead of allowing the MtC valuations of place and experience to be considered on their own terms. Attempts to represent value of “immeasurable” resources and experiences within nature spaces and nature-based recreation are often abstracted and translated in capitalist terms to make the data palatable to capitalocentric audiences. Ecosystem services (see Huber, 2018) and experiential value (Yu, 2019: 1) are two examples of this process of taking intangible, embodied, and experiential valuations and converting them to, “tangible values” for ease of capitalist abstraction/comprehension (Harmon, 2004: 9). For example, Huber (2018) problematizes these efforts to represent “ecosystem services” in monetary value terms, as the “abstract value systems stand in contradiction to the inherent particularities of ecological systems”

(Huber, 2018:152). There are also attempts to create schemas of non-monetary valuation, such as experiential or evaluative categories like “social capital” or “use value”. Each of these tend to translate its qualitative field data into frameworks and semiotics that carry connotations of capitalist evaluation such as “assets”, “exchange”, “transactions”, etc (see Mann & Leahy; Forsell et al, 2020; Loomis, 2005). While the data within these studies is fruitful for expanding dialogue and definitions of these capitalist terms, it still reflects capitalocentrism in content and structure.

In clearing new paths for representing nature-based experiences in MtC terms, there is focus on the “intangible values” of these spaces (see Brown et al, 2014; Harmon, 2004). Harmon explains that it is not the “tangible values” that cause people to “care deeply” about natural and protected spaces, but the “intangible values. “Intangible values”, account for the values that people make within nature-spaces, the *intangible* or *nonmaterial* valuations of the “intrinsic value of nature” (Harmon, 2004: 9). Harmon presents the World Commission on Protected Areas list of eleven intangible values, including: recreational values, therapeutic values, spiritual values, cultural values, identity values, existence values, artistic values, aesthetic values, educational values, scientific research and monitoring values, and peace values (Harmon, 2004: 10). However, while these are representative of many aspects of the human experiences, what is missing here is the acknowledgement of the more than human relations that co-produce value, leaving still, a wholly anthropocentric conception of value, which is unrepresentative of recreator reported valuations.

These practices reinforce capitalocentric dominance even while they are attempting to be more representative. Attempts to research with and represent MtC value tend to



continue to mirror capitalocentric habits. What is needed is ideological and perceptual shift regarding definitions and constructions of “value”, what it looks like, and what it represents within its own human-MtH placed contexts. What limitations do capitalocentric categorizations and quantifications pose to evaluations of the infinitely variable systems of MtC valuations? In line with MtC diverse economies theorists and practitioners, this research avoids the capitalocentric tendency to translate, abstract, monetize value. Instead, it opts to follow the lead of Gibson-Graham (1996,2006), Roelvink (2014), and Miller (2019) in representing contextualized and diverse systems of valuation that are particular to geography and practice. Value within the MtC context is open to represent and be present within a diverse array of exchanges, transactions, and relations. When considering valuations of nature-based recreators, place-based experiences are central. This research focuses on the experiential and intrinsic value of natures and nature-based recreation, valued by recreators as, “beyond measure”. Within this context, there is no one set of “commensurate terms” (Miller, 2019: 203) nor monetary quantifications. Instead, in the contexts of nature-based recreation in USFS trail places, interactions between human and MtH are valued viscerally.

*Visceral Value:*

What and how specifically are these nature-based recreators valuing in trail places and how do they come to know these valuations? Embodied experiences are key here. For nature-based recreators, MtC valuations are formed via experiences of the whole self “being affected” by and relating with USFS trail places. Value is determined, practiced, and experienced by recreators quote literally, on the ground, or more accurately, *with* the

ground (Ingold, 2011). Nature-based recreation engages different “perceptions and awareness” than non-nature-based recreation practices (Humberstone, 2011: 497). Nature-based movement research presents various means of noting experience, meaning, and value for human participants (See Allen-Collinson & Leledaki, 2015; Humberstone, 2011, 2013; Allen-Collinson & Hockey; 2010; Paterson, 2009; Brown, 2014, 2015, 2016, 2017; Allen-Collinson, 2018).

Of the growing and rich existing scholarship on nature-based movement (Humberstone, 2011: 497) and MtC economies (Gibson-Graham et al., 2016: 705), there is discussion of “embodied capital” (Dant and Wheaton (2007: 10), *affective/emotional economies* (Ahmed, 2004; Brown, 2016; Humberstone, 2011), “embodied cultural capital or physical capital” (Howe, 2009: 312). Despite a rich exploration of more-than-capitalist economies, existing scholarship lacks a discussion of how value is experienced, constructed, and conveyed within and as part of the geographical sites of nature-based movement. This introduces the question: how do we approach the valuations associated with nature-based visceral experience without putting capitalism at the center? This research embeds the value created and practiced with human and natures within the trail space itself. It focuses on the ways that bodily experiences are expressed as forms of valuation and transaction, aligning with MtC focus on individual subject and sensational processes of embodiment (Gibson-Graham, 1996: xvi). Nature-based recreator valuing is expressed as more-than-capitalist by recreators, working in concert with the natures within which they are recreating. Exchanges occurring during nature-based recreation, are expressed as dynamic and diverse systems of value by recreators, as value created due to the *visceral* relations they are practicing within the MtH trail space via movement. These

types of holistic valuation can be understood as, *visceral value*, a term I am introducing here to contribute to the MtC, visceral geography, and nature-based movement fields; expanding notions of value to incorporate human embodied experiences with/in natures.

I use the term, *visceral value*, to highlight the diverse and non-quantifiable ways that nature-based recreators create and practice value with/in USFS trails. Nature-based recreators report that valuations occur mainly via visceral experiences taking place during body movement within the USFS trail sites. These valuations are “beyond measure”, or capitalist abstraction yet, much like Norwegian friluftsliv, are core means of valuing these public land spaces. How then might these valuations be represented in other than monetary ways? Instituting incommensurability within this context, allows for the recognition of recreator reported valuations of USFS trail places without attempts to abstract/interpret/monetize the valuation. Within this context, I term these valuations: *visceral value*. Visceral value refers to the MtC valuations produced through sensations and relations stemming from physical, mental, emotional, and spiritual experiences between humans and more than human natures. *Visceral value* takes into account the, “‘value beyond measure’ of natural beauty and the ‘services’ that come to us from others” and combats capitalocentric, “demands for quantification” (Miller, 2019: 205).

Visceral value, as a concept, stems from the field of visceral geographies, with its’ focus on the interrelations between bodily experience, affect, biological environment, and the material and immaterial components of culture and environment (Hayes-Conroy, 2017: 52). Visceral geographies defines *visceral*, as, “the sensations, moods, and ways of being that emerge from our sensory engagement with the material and discursive environments in which we live” (Longhurst, 2009 cited in Hayes-Conroy & Hayes-Conroy, 2010: 1274).

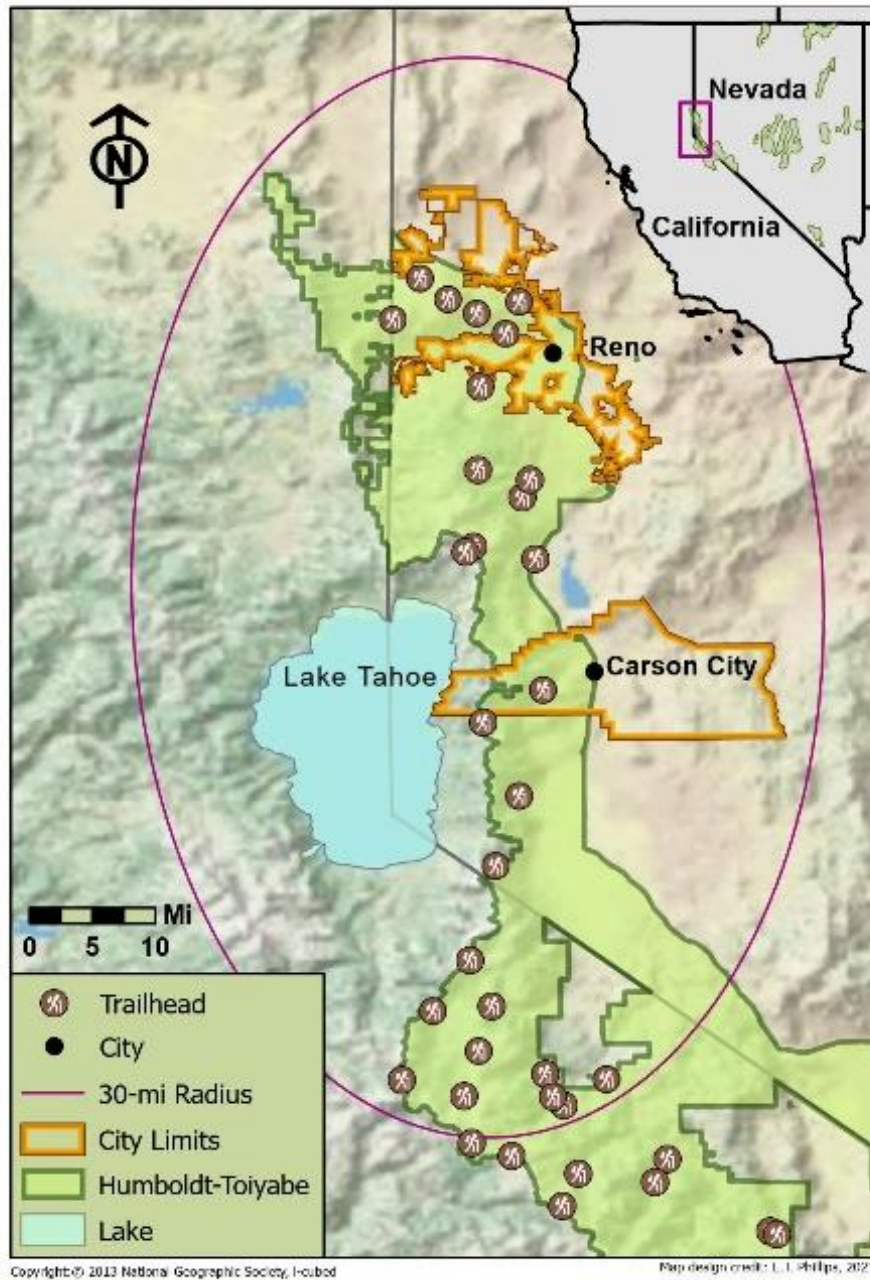
*Visceral value* is also inspired by William Connolly's (2002) work with the *visceral register* in relation to politics, surveyed in Gibson-Graham, 2006 (24). The visceral register recognizes the ways that humans register life experiences and events via visceral avenues. Experiences of visceral register, give rise to, "affective responses, gut reactions, and embodied actions that cannot help but influence other registers of being...", they are prime sites of "becoming" for individuals making and imagining community, self, and place (Gibson-Graham, 2006: 24).

### **In the Humboldt-Toiyabe National Forest:**

This article presents dissertation research conducted from June 2019-February 2021 that investigated the relations that trail recreators have and practice with USFS trail spaces. It focused specifically on no-fee USFS single-track trailheads throughout the Humboldt-Toiyabe National Forest within 30 miles of the Reno/Carson areas (see Figure 1.1) for their accessibility to a wide variety of recreators, the ease of access from a variety of metropolitan areas (Reno, Carson, Truckee, Sacramento, etc.) and the lack of fees charged for parking; the multi-use status that allows for multiple forms of recreation (ex. hiking, trail running, mountain biking, horseback riding, dirt biking, etc.). The USFS land designation includes recreation as one of its predominant uses as declared by the US Department of Agriculture. The Humboldt-Toiyabe National Forest, in particular, spans 6.3 million acres, from the California and Nevada Sierra Nevada Mountains in its Westernmost reaches, to the Idaho state border in the North, and

**Figure 1.1**

Map of study area in the Humboldt-Toiyabe National Forest



**Note:** While all national forest in Nevada the Humboldt-Toiyabe National Forest, this study focuses on the region within 30 miles of Reno and Carson, NV areas. Trailheads listed here represent formal USFS trail heads, however, within this study area, many informal and unmarked trailheads exist that are also no-fee. Map created by Lauren Philips (2021)

to the Utah state border in the East; making it the largest of the US National Forests in the lower 48 states. Housed within these Humboldt-Toiyabe National Forest acres are 150,000 miles of multi-use recreational trails, with human and/or machine powered access depending on Wilderness designations. The Reno and Carson portions of the Humboldt-Toiyabe are home to the Sierra Nevada mountain range, with peaks reaching nearly 11,000 feet in this region. Reno and Carson urban centers sit in basins at the feet of this range offering USFS trail recreators the opportunity to explore varied topographies and climates ranging from high desert scrub to lush dense forest at around 9,000 ft to high alpine on the mountain tops.

U.S. public lands have become an important symbol in the American national imaginary. They encompass close to one third of the total US land mass (Wilson, 2014: 11). Of these, there are various public land designations: Bureau of Land Management (BLM) land (247 million acres), national forests and grasslands (193 million acres), national wildlife refuges (150 million acres) (Wilson, 2014: 4). These lands are now deeply embedded within US dominant culture and identity, even for Americans that have not physically visited these locations (Wilson, 2014: 63). US public lands are designated as multi-use *American commons* (Ketcham, 2019: 5) that offer a wide variety of stakeholders opportunities to practice and form their own unique inter-relationships with natures on these lands (Clayton, 2019: XV). These lands reflect the multiple, and seemingly contradictory, socioeconomic scalar dissonance in use and valuation presented in this paper historically and in present. Two federal laws passed in 1872, The General Mining Act and the Yellowstone National Park Act. These two acts are prime example of the structural tensions present in these spaces as the GMA served to designate mining as

the “highest and best use” on federal lands and the YNPA formed the country’s first national park: Yellowstone National Park, 2.2 million acres. Yellowstone was set aside from private development, “preserved in perpetuity” for “all” Americans, due to its “aesthetic and inherent value” (Wilson, 2014: 39). US public lands are considered “common property”, theoretically offering “equal access” to all Americans with natural resources to be conserved and “provisioned” according to the Multiple Use and Sustained Yield Act of 1960 (Jenkins, 2018: 35).

When examining the various forms of valuations associated with US Forest Service lands, “the conceptual legacy of seeing nature as commodity” (Wilson, 2014: 183) has been prioritized structurally by US government and corporations, and in so doing has established value of these spaces based on what Agrawal terms, “market price”, via hypothetical statistics of yield, projected revenues, and volume conversions of the living natural resources into material use (Agrawal, 2005: 59). This form of valuation of USFS lands serves only one of the primary use designations for these public spaces: extraction. This sits counter to the “multiple-use” mandate dictated structurally for these spaces by the US government. Recreation emphasis on public lands coincided with the Environmental Decade of the 1970’s in which greater attention to concepts of protection and preservation for natures and wilderness within the US public land systems was initiated, particularly in the USFS lands containing the US National Parks and designated wilderness areas that strongly promote recreational access (Stinson, 2017; Wilson, 2014; Ketcham, 2019; Clayton, 2019; Baden & Snow, 1997). This initiated a, “growing number of Americans who valued [U.S. public lands] primarily for their beauty, wildlife, open

spaces, for the chance to walk and camp and experience in quiet and solitude the rhythms of the land” (Ketcham, 2019: 26).

This research explores USFS lands as sites and practices of multiple co-existing socioeconomies. This research focuses specifically on the recreators who participated in this study. It does not attempt to represent all stories and experiences with public lands. Inherent in any investigation into US Public Lands is consideration of the holistic picture of these landscapes, which includes the colonial and access related issues existing in these spaces, historical and present (See Finney, 2014, Mills, 2014; Kosek, 2006; Savoy, 2015; Deming & Savoy, 2011; Minor & Boyce, 2018; and Moore, 2016).

As *visceral valuations* are experienced and expressed by recreators as sensory, bodily, and affective relations with the trail places, methods were designed to capture visceral experience. Pink explains that, “by attending to the bodily sensations and culturally specific sensory categories...through which these feelings are communicated about and given value, ethnographers can come to know about other people’s lives in ways that are particularly intense.” (Pink, 2015: 59). This research solicited qualitative data from multi-use trail recreators in the Humboldt-Toiyabe National Forest within 30 miles of the Reno/Carson NV areas. Field research for this investigation was completed from June-September 2019, and from September 2020-February 2021. Voluntary surveys yielded 95 questionnaires from visitors at trailheads. Participants were given the option to participate in a longer terms study, and, of the original 95, 39 expressed interest and 14 ultimately chose to participate. Long-term participants reside in the Reno, NV, Carson, NV, and Truckee, CA areas and access the Humboldt-Toiyabe National Forest trails on a regular basis, ranging from 3 to 7 days per week. Age ranges of these



participants are from 27-78. The qualitative mixed methods employed for this project were: questionnaires (in-person and via email), telephone and video interviews, journaling, photo-elicitation (Pink, 2015). Participants kept trail journals over a one-month period. Long-term participants first completed emailed questionnaires. Once completed, we conducted our first one-hour interview via telephone. Participants were then emailed *trail journal* instructions, after which, they spent one month journaling with at least 6 journal entries. Participants chose their form of journaling with most opting for typed format and some opting for voice record. While on the trail, they took photographs of their trail time to include in their trail journals. Following completion of their one-month journaling period, participants completed a one hour closing interview via Zoom.

Innovations were made to data collection methods due to impacts of COVID-19 restrictions and in order to best elicit the MtC and MtH relations and valuations occurring. Traditionally, *autoethnography* completed by the researcher themselves, an “autobiographic accounting through which the researcher’s thoughts and feelings are made visible and through which the research is identified as credible and authentic.” (Humberstone, 2011: 498). COVID 19 restrictions proved an ideal time to experiment with “messy methods” (Dowling, Lloyd, & Suchet-Pearson, 2017: 825) and decolonizing this application of autoethnography. Through trail journals and photo-elicitation (Pink 2015) participants took on experiments with participant-completed autoethnography-shifting the “expert knowledge” to the participant, allowing for, “an intimate examination of movements, feelings, sensations, and bodily encounters, and how they were made sense of by different recreationists.” (Brown, 2016: 39).

**Practicing more-than-capitalisms:**

Recreators involved in this research describe the value produced through their body movements and embodied interrelations with trail places. The data presented here is representative of this set of trail recreators and does not attempt to speak for or represent all public land users. During data collection, participants responded to interview questions and journal prompts that inquired how they value their experiences in these USFS spaces. For example, they were solicited to describe what they feel they “give” and “get” during their trail experiences. The concepts of *give* and *get* represent forms of “exchange” and “reciprocity”, terms commonly employed within socioeconomic discourse, whose meanings are often attached to capitalocentric determinations of value. However, participants in this study employ these terms as descriptors for more-than-capitalist contexts. When I asked participants directly if they think about money while on the trail, each responded that no, they do not. However, many did, acknowledge the structural and local presence of money related to the USFS trail space, such as donations at trail heads, paying taxes that support USFS lands, commercial and national sale of US public lands, and barriers to access at fee-based trail heads. This demonstrates that spaces are not exclusive to only one socioeconomy and that recreators are indeed part of more-than-capitalist spaces while in the USFS trails.

Participants were asked directly in their closing interviews what they value within USFS trail places. Further, they were asked if USFS public land trail spaces are experienced or perceived of differently than non USFS trail spaces for recreator’s recreation, relations, and identities. They express that USFS lands are essential for MtC valuations involving their recreation, relations, health, and identities. These nature-based

recreators are in intimate contact with the trail places and they actively choose to live in Reno, NV, Carson, NV and Truckee CA because of the access and proximity to these trails. Alyssa explains this further when asked in our closing interview: Are USFS lands a necessary space for your recreation, your relationships to nature, and / or your personal or collective identity? She responded:

Yes, if I didn't have it, I would be so depressed and miserable. We left Wisconsin because I was unhappy. I was like...if I wanna do anything here I have to drive hours and hours away... There's no mountains, like if I want to go up to Lake Superior it's a six hour drive, but here I can get to a trail in five minutes...I live in Northwest Reno and... the view of Mt. Rose Wilderness, I'm just like, 'I wanna go up there, how do I get up there?'. The sense of wonderment the sense of adventure, if I don't have that, I'm just, I'm not who I am... (Alyssa, closing Zoom interview, 2/9/21)

When asked the same question, Artemisia responded:

Ahhh 150% yes, yes! [laughs] Yeah so important. I've been so grateful, especially this year where I couldn't travel or they didn't really want you traveling, didn't really want you going to other communities, all my events were canceled, and I had so much opportunity so close to where I live to explore and be outdoors and do all the things I love. I mean, so grateful for that, yeah, never finished a ride not being grateful for where I live. I realize I made the choice, but I also probably didn't realize how abundant my wealth of, you know, public access was going to be living here, it's amazing. (Artemisia, closing Zoom interview, 11/24/20).

Artemisia points to a central component for nature-based recreators: the perceived and experienced more-than-capitalist "wealth" on USFS trails. *Wealth* is common concept expressed in direct and indirect socioeconomic vocabulary by recreators. Shared sentiment amongst the participants in this study was an even greater appreciation for USFS trails during the COVID-19 pandemic, as Artemisia references above.

Gina echoes the importance of US public lands for her valuations when asked in our closing interview if she had any last thoughts or comments she wanted to include in the data:

Well, again, I just really value public lands...I really think it's very important for people to know that there's that beauty and there's that beauty in us and when we connect with nature it brings that out and it can be a great sense of peace, a tremendous sense of bringing forth that inner radiance which I think the world greatly needs right now...all we hear is all this terrible negativity and trouble and violence, it's just absolutely devastating, it just destroys your spirit. So I feel it's very, very important that we protect public lands of all kinds and allow open spaces and public spaces for people to go and recreate so they can get their sanity back, you know? (Gina, closing Zoom interview, 1/18/21)

Participants feel USFS lands, like the Humboldt-Toiyabe National Forest are vital for their lives and livelihoods. These are experiences and relations that they are not able to access in other environments. In our closing interview, I asked participants how their USFS trail time is different than their recreation in non-public land spaces.

It's definitely more freeing...there are less constraints, like in a city its busy, you have to follow the sidewalk and you cross at the light and there's lots of people so you really can't go sprinting down the sidewalk. Um, and social norms, like if you're sprinting down the sidewalk people are probably going to look at you funny. Um, and even in the house it's a small space like there are walls and being outside that just doesn't exist so the constraints end up being my own energy level or my legs being tired or my attention to space so it definitely changes, it changes the constraints. (Els, closing Zoom interview, 1/13/21)

Their expressed forms of visceral value reflect these sentiments. The data presented here is categorized into two main sections: visceral value in physical, mental, and spiritual sensations; and visceral value in 'being affected'. Throughout the data, participants share photographs in conjunction with their verbal or written descriptions of the photograph in response to photo-elicitation methods (Pink, 2015), providing opportunity to experience their descriptions viscerally as the reader.

*Visceral Valuations in Physical, Mental, and Whole Self:*

When asked what they feel they “get” from their USFS trail time, main responses common for all of the participants have to do with their physical, mental, and whole self health. When asked specifically what she feels she “gets” from her USFS trail time, Gina shares:

I feel that I get a deeper sense of spiritual connection, and connection with nature ...I feel like I get a healthier attitude about life and I feel like... for my body physically, it’s healthy to be out and moving and feel the blood pumping and getting oxygen. All of the physical activity feels good to my body so those are things I feel I get...  
(Gina, Interview 1, 12/8/2020)

For participants, the physical, mental, and whole self “benefits” of trail time are experienced holistically and cannot be separated or evaluated in isolation from one another, and all benefit from, “the restorative power of our open spaces.” (John, trail journals, 11/4/2020). For example, Carrie-Gail writes, “Even when I am feeling physically unwell, spending time on the trails always makes my mind and body feel healed.” (Carrie-Gail, trail journals, 9/6/2020). Time on USFS trails also provides “talk therapy”, access to spiritual fulfillment, meditation, “refuge from stress” (Layla, Questionnaire), the solitude of being away from the city, and physical and mental stimulation unparalleled in other spaces. “Therapy” and “mental health” were often mentioned as common visceral values in these spaces. Carrie-Gail refers to this as, “trail therapy”: “We use our trail time to talk about our lives. Trail therapy comes from the Saturday long run with friends.” (Carrie-Gail, trail journals, 9/5/2020). “Trail therapy” and other mental health benefits, are

expressed by participants as visceral value of their nature-based movement within USFS trails:

This is why I love being on the trails so much. On a morning when so much was feeling so uncertain, my time on the trail helped center me and calm me. My breathing became like a deep breathing exercise that you would experience in a therapist's office – measured, calming, nice. I was so glad to have this opportunity to get out this morning before returning to the reality of an election still up in the air. (John, trail journals, 11/4/2020)

A Large part of physical, mental, and spiritual health valuations expressed by participants, is the stress relief, the feeling of grounding and coming 'home', they feel from the combination of the exercise and the nature setting in which they opt to practice these mobilities. The exercise itself is, "an instant reliever of all things stress." (Erie, Questionnaire). Stressors get paused for the trail time: "Work and relationship stress can be put on the back-burner while focusing on the trail" (Carrie-Gail, Questionnaire). These participants are avid trail goers, each accessing these trails at least three times per week, and doing so in large part due to the physical and mental "distancing" from urban and stress that these spaces in conjunction with their movements afford them. Bratman explains that body movement in nature-based environments provide many benefits, "activat[ing] our parasympathetic nervous system in ways that reduce stress and autonomic arousal, because of our innate connection to the natural world." (Bratman et al., 2015: 42). Stress is felt viscerally for recreators and they opt to practice movement on trails to relieve these stressors. Stewart's trail journals are excellent example of the ways that recreators describe how physical body movement in trail places is valued for its stress relieving properties. Here, I share a complete journal entry from Stewart's

trail journals, including photographs to convey the individual and embodied experiences with this valuation:

This was also a stress relieving ride, I've had a rough and busy few weeks prior to this ride, so I wanted to pedal until I couldn't. I started this ride with a group but eventually finished alone. I first started the ride in frustration, then as I was able to focus on the trails and the activity itself, which became therapeutic. As my stress started to leave me, I noticed that the deciduous trees near Marlette Lake and Spooner summit had changed colors, which was a very nice experience. The TRT is also very scenic, so as I stopped to take in the views, I gained more and more joy. It's funny how physical activity in natural areas is the best method to resolve my problems. It's such a good place to reset my mind and put things in perspective.

**Figure 1.2**

*Stewart, trail journals, 10/17/2020*



*Note:* Photograph provided by Stewart within his trail journal from 10/17/2020

Stewart depicts the ways in which his stressors from urban life are viscerally felt, and

how his engagements and relations with nature via nature-based movement are

invaluable for him. This particular visceral value is established for Stewart via the multiple sensory inputs, overcoming physical and mental challenges posed by the trail spaces, physical exertion, time away from urban and work stressors, solitude and the gratitudes they practice there.

Within Bratman's studies, it was found that, "...compared to the walk in an urban environment, the nature walk decreased anxiety, rumination, and negative affect, and maintained positive affect." (Bratman et al., 2015: 47). As Dorothea explains:

This National Forest open space, so close to my home, offers me an essential opportunity to get exercise, connect with the mountains around here, and to express and work out my emotional states through the act of hiking. (Dorothea, trail journals, 10/24/2020)

And these health benefits do not stay on the trail space, they are carried with the recreators to the other geographical and mental realms of their lives:

I still feel so rejuvenated and refreshed from the run. I can't think of a single time I have regretted getting out. I get to the end of a run, short or long, and feel like I'm ready to take on work and challenges and the state of the world anew. (Els, trail journals, 10/17/2020)

It is for these reasons that USFS trail places are expressed as "*vital*" to participants overall "*well-being*" (Layla, Questionnaire). For most participants, expressing the ways they place value in physical and mental health benefits are often tied together with the ways these experiences are embedded within nature and tied to their senses. It is not only the movement itself that is providing benefits, it is that movement, in concert *with* nature and with the trails that recreators experience these benefits that they value in these spaces. These holistic and sensory based/embodied trail experiences allow participants to achieve the physical and mental stimulation and exercise that they seek that in turn become essential and embodied components of how they know themselves holistically.



As Vivica shares, “I’m getting a part of my life that’s not complete when I’m on the trail when I’m on the trails.” (Vivica, interview 1, 10/20/20). They describe how they do not experience these same holistic healths practicing their mobilities in other environments (ie. surfaces, land designations, urban, etc.). Stewart is a state employee who lives in Reno and works in Carson. He races and tours on bicycles, spending at least 5 days per week on the USFS trails around Reno and Carson. He accesses these lands year-round, shifting mode of movement depending on the weather (ie. ski in the winter). As his work and home are in urban locations, he describes the differences he feels in his own well-being and health in the city vs. on the USFS trails when I inquired as to the difference in how he feels specifically on USFS trails in comparison with non-USFS spaces:

I’m always so overwhelmed whenever I go to a big city, there’s just a lot going on , it’s sensory overload, and I’m always... more stressed like even subconsciously...it’s kinda like you never really know what to expect, so it’s ... at like a very primitive ...mindset I feel like there’s a lot more danger in the cities, but on a trail... it’s just so much more relaxing... it’s so much more of a genuine amount of senses not like advertisements or something that’s shoved in my face. So, I feel a lot more at ease on a trail versus like in a city sidewalk or something and I feel like I can take in all the everything around me a lot easier on a trail... (Stewart, closing Zoom Interview, 12/3/2021).

Stewart, like the other participants, spends time recreating with/in these USFS trails to “relax”, be “at ease”, feel safe, and connect with nature via the senses. These are common valuations expressed by participants regarding why they choose to recreate on the USFS trails as opposed to other locations and surfaces. Stewart describes the ways that the visceral interactions between their body movement and being away from “normal” “stimuli” and stressors in non-trail spaces impacts their physical and mental states.

Participants actively incorporate recreation and play, locating themselves near access to USFS lands and trails, thus making it possible to access these places and move in these places on a regular basis. John explains:

I get to go out and do this...I'm always mentally very excited about it, when I get there there's such a rejuvenating aspect to it no matter how tired you might be from the day's work it all just melts away. It's restorative for me to be out there physically and mentally and then afterwards again, even if I go out on a 30 mile day on the trail and even if it's cold and windy and wet, I think when I come home I don't necessarily feel exhausted as I feel I want to keep holding onto it, what made the day special, I can't think of hardly anywhere it feels like a waste of time. It feels like money in the bank for me to get out there and be a part of it, even if it might be kind of daunting, I never feel exhausted. In the long run it's doing me good. When I get back to my normal life it's gonna help me deal with deal. ...one step at a time and one mile at a time. It's helped me professionally handle challenges and when I'm out there its excitement and its good and its right. (John, Interview 1, 12/18/2021)

John details the ways in which access, movement, physical and mental health, transactions, and nature-based places are intimately intertwined within the ways that these USFS trail places are valued by recreators, even equating the visceral experiential “gains” from nature-based relations as, “money in the bank”. These benefits carryover into other-than-trail life for recreators, they continue to mentally, physically, and spiritually feel benefit from and connection with the nature-based movement they are practicing, which allows recreators to value natures and their mobilities even when “away” from these sites, begging the question, are they ever really away from or disconnected from these trail places and nature-based mobilities?

*Visceral Valuations in 'Being Affected':*

Meanwhile, the last of the sunset was glowing in a red stripe above the mountains on the other side of Lake Tahoe. Stars were coming out. The air smelled like ice. No sound except my footsteps and breathing. The night air felt exciting and exhilarating. I usually don't hike alone at night, but the cold air, the stars, the silence were all wonderful. I was too focused to be scared. I knew that panicking is the worst thing to do in such a situation. So, I just kept on walking, trusting that my body would cooperate as long as I needed it to, no matter how late or cold it got. Election anxiety had long since vanished from my mind. (Dorothea, trail journals, 10/9/2020).

Dorothea is a 74 year old trail hiker in the Humboldt-Toiyabe. Even in potentially “dangerous” scenarios, like being lost in cold weather at night, participants express positive embodied and mental experiences. She values this experience for the ways she was “affected” positively. More-than-capitalist and more-than-human scholars pose various concepts of *learning to be affected*, “as an ethical practice”(Gibson-Graham & Roelvink, 2009: 325 and Roelvink in Roelvink et al, 2015: 228). Being affected represents the ways in which humans find themselves impacted by, “forces that impinge on bodies, which may or may not be felt.” (Gallagher et al., 2017: 625)”. For example, Antony describes how he feels while on USFS trails simply as, “ONLY PLACE HAPPY” (Antony, Questionnaire, 8/17/2020<sup>10</sup>). Being affected by elements of nature presents in embodied, visceral, emotional, spiritual, and other ways. Being affected, then, is embodied and somatic (Bennett, 2008: 5). Participants share these practices of *being affected* as a third form of visceral value practiced within USFS trail places. Alyssa shares this with their trail journal and photo-elicitation photograph:

This particular trail experience was all about a beautiful, warm morning and the views...The smells of the plants relax me and that's

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<sup>10</sup> Some questionnaires do not contain completion dates as all information on questionnaires was completed on voluntary basis.

one of the reasons why I felt so calm after a hike like this.” (Alyssa, trail journals, 12/23/2020)

**Figure 1.3:**

*Alyssa, trail journals, 12/23/2020*



*Note:* Alyssa provides this photograph within her trail journals

Alyssa shares her delight with being affected. These feelings of being affected are a norm for trail recreators, no matter the weather or the crowds, recreators find themselves affected by the more than human trail places in some way each time they practice their mobilities there. Alyssa is stimulated by the sensory elements that she shares in her written and photo journal entry. Her photograph shares the sensory elements, the co-producers of value, that she lists in her trail journal as being sources of visceral value:

The flowers, the sunshine, the views, and the trail itself. Alyssa's trail journal is evidence of the ways in which nature inspires the process of *being affected*.

For recreators, being affected does indeed allow them the ability to connect with the trail places, with themselves, to be present via their movement in these spaces, thus actively combatting the Western tendency to "divide the world into ontological pieces" that removes emotional attachment/response from humans, limits human ability to be part of and be affected by the natural world (Castree, 2014: 26). They value these connections viscerally via embodiment in the trail places. Within nature/wilderness/USFS trail places, recreators detail the feeling described by Ketcham in which, "You need to be present totally, awake to your surroundings." (Ketcham, 2019: 251) and when you are, you are able to be affected. Participants purposefully visit trails that have less humans and have beautiful scenery so that have better chance of being affected without disruption, demonstrating that it is not the movement alone that nature-based recreators value. It is also the movement in concert with nature that is valued viscerally.

For participants, "Priorities get streamlined" in these visceral experiences of being affected, and they are able to be fully present. Value is placed in the impact that nature/wilderness has on them. They express this as feeling "more alive" (Bill, questionnaire, 8/11/2019) and feeling limitless. Alyssa expands on these feelings of being affected by nature in her questionnaire:

I feel very honored and humbled when I am on public lands. I feel free. It gives me the opportunity to see the beauty in this world and reflect on my life... When I'm hiking/trail running I can't get enough of the views so I keep going. I'll hike/trail run until my legs shake because I want to see the next view over the mountains. I love the smell of the sage, lavender, and ponderosa when I'm hiking/trail running. I stop to touch and smell the plants. I even hug the trees! I

also love the shadows of the foothills during sunrise and sunset. One of my favorite views is when you see the silhouette of the mountains after the sun has gone down. I feel like I'm on vacation every day because I love where I live. I love the beauty I'm surrounded by. (Alyssa, Questionnaire)

Alyssa, employee at University of Nevada Reno, moved to Reno with her family explicitly for the access to public lands. Being from the Midwest, with limited access to public lands, she made the decision to live where she can access these trails regularly with ease because of the strong value she places in these spaces. For Alyssa, experiences of being affected are one of the core reasons for visiting these trail spaces. The components of being affected become visceral sources of valuation that are sensory-based and relational with the more than human trail environment.

The data included here narrates the ways in which the USFS trail spaces are viscerally valued by recreators. These valuations are created through body movement, sensing, and being affected. Visceral valuations via nature-based movement are essential forms of understanding the on-the-ground valuations of USFS lands. Via nature-based recreation in the Humboldt-Toiyabe trail places, participants are experiencing and expressing visceral value. Through these MtC visceral valuations, participants institute incommensurability, sharing their "on the ground" valuations that co-exist with capitalocentric valuations of these same USFS spaces.

### **Conclusions:**

It's funny because there's this whole process you go through as you're driving away you think about the very short past that you've

just experienced, literally there's so many memories and sensations that are so fresh they kind of wash over you. You feel warm and content, maybe it's the endorphins or something, then after a few hours it becomes more of an intellectual exercise, where you put it in context for what does this mean, whether its training for something or thinking about the last couple of outings relative to the last one, you're still processing it all I think by the time you wake up the next morning you continue to think about it, and this is far as I need to go with this, I need to start thinking about the next outing, from the time you finish and leave, its completely different, I'm sweaty I feel good to in my mind, what does this all mean kind of thing. (John, Interview 1, 10/04/2021)

For John, the USFS trails never leave him, even when he geographically leaves the trails. John's summary of the ways he is being affected by USFS trail time is indicative of the MtC holistic and embodied valuations practiced by nature-based recreators in the Humboldt-Toiyabe National Forest. The data presented here demonstrates Baden's sentiment that, "The logic of the market will never fully express the human values that attach to the open, public lands of the West, for the ultimate market logic is privatization" (Baden & Snow, 1997: 105). In a time where, "capitalism is killing the commons" (Ketcham, 2019), it is time to cut the "umbilical" between value and capital" (Harvey, 2017: 51) and to clear space for multiple interpretations and practices of value to co-exist. What I have proposed here is a more-than-capitalist intervention into the understanding and vocabularies of value, rooted in Miller's, *instituting of incommensurability*, to explore the embodied ways in which nature-based recreators value USFS trail places via *visceral value*. I have argued here that recreators value nature via more-than-capitalist strategies of *visceral value*, valuations co-produced with/in natures during practices of nature-based movement with/in trail places in the Humboldt-Toiyabe National Forest in the Reno/Carson City, NV areas. Via mixed methods focused on the relational and

visceral components of participant experiences, this research was able to highlight the multi-scalar ways in which USFS lands are valued via diverse MtC socioeconomies, demonstrating the “fuzzy multiplicity of real-life economic geographies and human behaviours” (Pani, 2017: 6). And in so doing, it has served to question the tendency for capitalism to be *the* socioeconomic focus on USFS lands, instead highlighting the multiple co-existing systems of valuation present. In so doing, the data presented here is evidence that it is not necessary to abstract MtC valuations into capitalist terms in order for them to be made visible.

The visceral valuations shared here by participants demonstrate the ways that rescaling socioeconomic focus to the local site of the body allows the on the ground lived and lively MtC valuing and transactions to come into focus. Data presented here demonstrates that trail recreators value intrinsic and experiential assets assessed and practiced within the natural worlds around them. For nature-based recreators, the intrinsic value and embodied/affected experiences within the USFS trails spaces are priceless, even when compared to highly prized experiences common within the capitalist socioeconomic norm:

[Sighs] I mean honestly, you can't put a price on it. I feel like at this point, I'm a guest in this setting...I wish I could give more than ...any financial or fiscal amount to... allow other people to experience places like this...there's so many moments that I've experienced on ... several trails where you just ... stop and ...you can't really buy that with anything. Any trip to a theme park or an event or watching a movie, it won't be the same as this, so it's invaluable. (Stewart, closing Zoom interview, 12/3/2020).

Although it is assumed within capitalocentrism that all spaces must center around capitalist valuation, the participants practicing nature-based recreation in the Humboldt-



Toiyabe National Forest demonstrate that within these spaces, they practice *visceral valuing* while acknowledging that these are also spaces of capitalism. Participants share the embodied visceral valuations that they place in these trail spaces that do not align with the capitalocentric valuations of this space.

Instead of perpetuating the capitalocentric homogenization of value of nature, this research contributes to diversifying definitions and perceptions of value within USFS public land spaces. It speaks to MtC scholarship in opening discourse, expanding possibilities of value. The key here, then is to make visible/heard the MtC valuations (on the ground, local, embodied) occurring in these spaces so as to demonstrate the existing and possible alternatives to capitalocentric valuing of these spaces. This data encourages thinking bigger, and in order to think bigger, scalar focus must be shifted to the local, to the individual body and the embodied experiences. It is time to be investigating and communicating the more-than-capitalist ways that value is created, expressed, and transacted within places.

This research encourages further investigation into MtC strategies of valuing in all settings. In particular, applications of visceral value can aid in assessing and representing MtC valuations of natures. This is an important step in breaking down the capitalocentric hegemony over value of nature as resource, encouraging the instituting of incommensurability instead of abstractions. In finishing this research, I am left with several questions open for future investigation: What might these MtC *visceral valuations* created and practiced in these spaces mean for healths of human and natures? How might these valuations be taken on by structural entities to begin to account for and represent the more than capitalist valuations existing and contributing to the actual value

of USFS lands and trails? What might this research say about the importance of recreation infrastructure within public land spaces for the health of humans, natures, and communities? What implications does this research have for future research, practice, policy, etc.? How might visceral value be employed in other contexts? What does this research mean for the valuations of US public lands themselves? By highlighting the ways that nature-based recreators are valuing and connecting with the biological environment, valuing it relationally, for its life as opposed for its dead/extractive uses, we may begin to give nod to the ways in which all life is connected, the ways that colonialism and capitalism have separate human from nature and human from human for political and economic agendas. Perhaps this is but one contribution to the ways in which we are able “to be one” (Savoy, 2015: 2) with the natural world and with one another as humans.

### Works Cited:

- Agrawal, A. (2005). *Environmentality: Technologies of Government and the Making of Subjects*. Durham: Duke University Press.
- Ahmed, S. (2004). Collective feelings: Or, the impressions left by others. *Theory, Culture & Society*, 21(2). 25-42.
- Allen-Collinson, J. (2018). 'Weather work': embodiment and weather learning in a national outdoor exercise programme. *Qualitative Research in Sport, Exercise and Health*, 10(1). 63-74.
- Allen-Collinson, J. and Hockey, J. (2010). Feeling the way: Notes toward a haptic phenomenology of distance running and scuba diving. *International Review for the Sociology of Sport*, 46(3). 330-345.
- Allen-Collinson, J. and Leledaki, A. (2015). Sensing the outdoors: a visual and haptic phenomenology of outdoor exercise embodiment. *Leisure Studies*, 34(4). 457-470.
- Anderson, S. and Rolland, C. G. (2018). Educated in friluftsliv- working in tourism: A study exploring principles of friluftsliv in nature guiding. *Scandinavian Journal of Hospitality and Tourism*, 18(4). 362-376.
- Baden, J.A. and Snow, D. (1997). *The Next West: Public Lands, Community, and Economy in the American West*. Washington D.C.: Island Press.
- Bakker, K. (2010). The limits of 'neoliberal natures': Debating green neoliberalism. *Progress in Human Geography*, 34(6). 715-735.
- Barlett, P. F. (2005). *Urban Place: Reconnecting with the Natural World*. Cambridge: MIT Press.
- Basso, K. (1996). *Wisdom Sits in Places: Landscape and Language Among the Western Apache*. Albuquerque: University of New Mexico Press.
- Bastian, M. (2017). Towards a more-than-human participatory research. In Bastian, M., O. Jones, N. Moore, E. Roe eds. *Participatory Research in More-than-human Worlds*. London: Routledge, 19-37.
- Beery, T.H. (2013). Nordic in nature: friluftsliv and environmental connectedness. *Environmental Education Research*, 19(1). 94-117.
- Bell, S.J., Instone, L., & Mee, K.J. (2017). Engaged Witnessing: Researching with the more-than-human. *Area*, 28(50). 136-144.
- Bennett, J. 2001. *The Enchantment of Modern Life: Attachments, Crossings, and Ethics*. Princeton: Princeton University Press.
- Bennett, J. (2010). *Vibrant Matter: a political ecology of things*. Durham: Duke University Press.

- Bingham, N. and Hinchcliffe, S. (2008). Reconstituting Natures: Articulating Other Modes of Living Together. *Geoforum*, 39(2008). 83-87.
- Boyd, F., White, M.P. et al. (2018). Who doesn't visit natural environments for recreation and why: A population representative analysis of spatial, individual and temporal factors among adults in England. *Landscape and Urban Planning*, 175(July 2018). 102-113.
- Bratman, G. N., Daily, G. C., et al. (2015). The benefits of nature experience: Improved affect and cognition. *Landscape and Urban Planning*, 138(2015). 41-50.
- Braun, B. (2003). 'On the raggedy edge of risk': Articulations of race and nature after biology. In *Race, Nature, and the Politics of Difference*. Durham: Duke University Press.
- Braun, B. (2006). Environmental issues: global natures in the space of assemblage. *Progress in Human Geography*, 30(5). 644-654.
- Braun, B. (2008). Environmental issues: inventive life. *Progress in Human Geography*, 32(5). 667-679.
- Braun, B. (2015). The 2013 Antipode RGS-IBG Lecture: New materialism and neoliberal natures. *Antipode*, 47(1). 1-14.
- Brown, G., Weber, D. and de Bie, K. (2014). Assessing the value of public lands using public participation GIS (PPGIS) and social landscape metrics. *Applied Geography*, 53(2014). 77-89.
- Brown, K.M. (2014). Spaces of play, spaces of responsibility: creating dichotomous geographies of outdoor citizenship. *Geoforum*, 55(2014). 22-32.
- Brown, K. M. (2015). Leave only footprints? How traces of movement shape the appropriation of space. *Cultural Geographies*, 22(4). 659-687.
- Brown, K.M. (2016). The role of belonging and affective economies in managing outdoor recreation: Mountain biking and the disengagement topping point. *Journal of Outdoor Recreation and Tourism*, 15(2016). 35-46.
- Brown, K.M. (2017). The haptic pleasures of ground-feel: The role of textured terrain in motivating regular exercise. *Health and Place*, 46(2017). 307-314.
- Castree, N. (2014). *Making Sense of Nature*. New York: Routledge.
- Chomsky, N. and Waterstone, M. (2021). *Consequences of Capitalism: manufacturing discontent and resistance*. Chicago: Haymarket Books.
- Clayton, J. (2019). *Natural Rivals: John Muir, Gifford Pinchot, and the Creation of America's Public Lands*. Cambridge: Pegasus.
- Comaroff, J. and Comaroff, J.L. (2001). *Millennial Capitalism and the Culture of Neoliberalism*. Durham: Duke University Press.
- Dant, T. and Wheaton, B. (2007). Windsurfing: An extreme form of material and embodied interaction?, *Anthropology Today*, 23(6). 8-12.
- Deming, A.H. and Savoy, L.E. (2011). *Colors of Nature*. Minneapolis: Milkweed.

- Dorwart, C.E., Moore, R.L., and Leung, Y. (2009). Visitors' perceptions of a trail environment and effects on experiences: a model for nature-based recreation experiences. *Leisure Sciences*, 32(1). 33-54.
- Dowling, R., Lloyd, K., and Suchet-Pearson, S. (2017). Qualitative methods II: 'More-than human' methodologies and/in praxis. *Progress in Human Geogrpahy*, 41(6). 823-831.
- Finney, C. (2014). *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors*. Chapel Hill: The University of North Carolina Press.
- Fishel, S.R. (2019). Of other movements: nonhuman mobility in the Anthropocene. *Mobilities*, 14(3). 351-362.
- Forsell, T, Tower, J. and Polman, R. (2020). Development of a scale to measure social capital in recreation and sport clubs. *Leisure Sciences*, 42(1). 106-122.
- Gallagher, M., Kanngaiser, A., et al. (2017). Listening geographies: Landscape, affect and geotechnologies. *Progress in Human Geography*, 41(5). 618-637.
- Gibson-Graham, J.K. (1996). *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K. (2006). *A Postcapitalist Politics*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K., Cameron, J, and Healy, S. (2015). *Take back the Economy*. Minneapolis: University of Minnesota Press
- Gibson-Graham, J.K., Hill, A. and Law, L. (2016). Re-embedding economies in ecologies: resilience building in more than human communities. *Building Research and Information*, 44(7). 703-716.
- Gibson-Graham, JK and Roelvink, G. (2009). An Economic Ethics for the Anthropocene. *Antipode*, 41(S12009). 320-346.
- Haraway, D. (2008). *When Species Meet*. Minneapolis: The University of Minnesota Press.
- Haraway, D.J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press.
- Harmon, D. (2004). Intangible Values of Protected Areas: What are they? Why do they matter? *The George Wright Forum*. 21(2). 9-22.
- Harvey, D. (2005). *A Brief History of Neoliberalism*. New York: Oxford University Press.
- Harvey, D. (2006). *Spaces of Global Capitalism: A theory of uneven Geographical Development*. London: Verso.

- Harvey, D. (2017). *Marx, capital, and the madness of economic reason*. Oxford: Oxford University Press.
- Hayes-Conroy, J. and Hayes-Conroy, A. (2010). Visceral Geographies: Mattering, Relating, and Defying. *Geography Compass*, 4/9 (2010). 1273-1283.
- Henderson, G. (2013). *Value in Marx: The Persistence of Value in a More-Than-Capitalist World*. Minneapolis: The University of Minnesota Press.
- Hesketh, C. (2016). The survival of non-capitalism. *Society and Space*. 34(5). 877-894.
- Hooks, B. (2009). *Belonging*. New York: Routledge.
- Howe, P.D. and Morris, C. (2009). An exploration of the co-productions of performance running bodies and natures within 'running taskscape'. *Journal of Sport & Social Issues*, 33(3). 308-330.
- Huber, M. (2018). Resource geographies I: Valuing nature (or not). *Progress in Human Geography*, 42(1).148-159.
- Humberstone, B. (2011). Embodiment and social and environmental action in nature-based sport: spiritual spaces. *Leisure Studies*, 30(4). 495-512.
- Humberstone, B. (2013). Adventurous activities, embodiment and nature: Spiritual, sensual and sustainable? Embodying environmental justice. *Motriz*, 19(3). 656-571.
- Ingold, T. (2000). *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. New York: Routledge.
- Ingold, T. (2011). *Being Alive: Essays on Movement, Knowledge, and Description*. New York: Routledge.
- Jenkins, J. (2018). A 'deep' aesthetics of contested landscapes: visions of land use as competing temporalities. *Geoforum*, 95(2018). 35-45.
- Ketcham, C. (2019). *This Land: How cowboys, capitalism, and corruption are ruining the American West*. New York City: Viking Press.
- Kohn, E. (2013). *How Forests Think: Toward an Anthropology Beyond the Human*. Berkeley: University of California Press.
- Kosek, J. (2006). *Understories: The Political Life of Forests in Northern New Mexico*. Durham: Duke University Press.
- Loomis, J. (2005). Updated Outdoor Recreation Use Values on National Forests and Other Public Lands. *United States Department of Agriculture, General technical report PNW-GTR-658*. 1-34.
- Lorimer, J. (2012). Multinatural Geographies for the Anthropocene. *Progress in Human Geography*, 36(5). 593-612.
- Lowenhaupt-Tsing, (2005). *Friction*. Princeton: Princeton University Press.

- Lowenhaupt-Tsing, A. (2015). *The Mushroom at the End of the World: On the possibility of life in capitalist ruins*. Princeton: Princeton University Press.
- Mann, M. and Leahy, J. (2009). Social capital in an outdoor recreation context. *Environmental Management*, 45(2). 363-376.
- McCarthy, J. and Prudham, S. (2004). Neoliberal nature and the nature of neoliberalism. *Geoforum*, 35(2004). 275-283.
- McKibben, B. (2007). *Deep Economy: The Wealth of Communities and the Durable Future*. New York: St. Martin's Press
- Miller, E. (2019). *Reimagining Livelihoods: Life Beyond Economy, Society, and Environment*. Minneapolis: The University of Minnesota Press.
- Mills, J.E. (2014). *The Adventure Gap: Changing the Face of the Outdoors*. Seattle: Mountaineers Books.
- Minor, J. and Boyce, G.A. (2018). Smokey Bear and the pyropolitics of United States forest governance. *Political Geography*, 62(2018-1). 79-93.
- Moore, D.S., Kosek, J. and Pandian, A. (2003). *Race, Nature, and the Politics of difference*. Durham: Duke University Press.
- Moore, R. (2016). *On Trails: An Exploration*. New York: Simon and Schuster.
- Parker, B. (2018). Value and abstraction in Thomas Hardy. *Modern Language Quarterly*, 79(2), 203-226.
- Paterson, M. (2009). Haptic geographies: ethnography, haptic knowledges and sensuous dispositions. *Progress in Human Geography*, 33(6). 766-788.
- Philips, L. T. (2021). *Humboldt-Toiyabe National Forest Reno/Carson Trailheads*, [map]. Reno, NV: National Geographic Society.
- Pink, S. (2015). *Doing Sensory Ethnography: 2<sup>nd</sup> Edition*. Los Angeles: Sage.
- Plehwe, D., Slobodian, Q., and Philip Mirowski. (2020). *Nine Lives of Neoliberalism*. London: Verso.
- Proctor, J. D. (2013). Saving Nature in the Anthropocene. *Journal of Environmental Studies Sciences*, 3(83), 83-92
- Raffles, H. (2002). *In Amazonia*. Princeton: Princeton University Press.
- Remacha, C, Perez-Tris, J, Delgado, J.A. (2011). Reducing visitors' group size increases the number of birds during educational activities: implications for management of nature-based recreation. *Journal of environmental management*, 92(6). 1564-1568.
- Roelvink, G. (2016). *Building dignified worlds: geographies of collective action*. Minneapolis: University of Minnesota Press.

Roelvink, G., St. Martin, K, and Gibson-Graham, J.K. (2015). *Making Other Worlds Possible: Performing Diverse Economies*. Minneapolis: The University of Minnesota Press.

Rosa, C.D, Silvia, C, Profice, C.C. and Larson, L.R. (2019). Nature-based recreation associated with connectedness to nature and leisure satisfaction among students in Brazil. *Leisure Studies*, 38(5). 682-691.

Savoy, L. (2015). *Trace: Memory, History, Race, and the American Landscape*. Berkeley: Counterpointe.

Sedgwick, E.K. (2003). *Touching Feeling: Affect, Pedagogy, Performativity*. Durham: Duke University Press.

Stinson, J. (2017). Re-creating wilderness 2.0: Or getting back to work in a virtual nature. *Geoforum*, 79(2017). 174-187.

Tsing, A. with Swanson, H. et al. (2017). *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.

Wilson, R.K. (2014). *America's Public Lands: From Yellowstone to Smokey Bear and Beyond*. Boulder: Rowman and Littlefield.

Yu, J. (2017). Verification of the role of the experiential value of luxury cruises in terms of price premium. *Sustainability*, 11(3219). 1-15.



### **3. Paper 2: Sensing place: nature-based recreation and more-than-human haptic relations within USFS Trails**

**Abstract:** Connections between humans, their senses and movement, and more-than-human (MtH) natures are evidence of the relational experiences that are integral to making places. This research explores how MtH relational experiences of place are practiced at sites of the human body that is engaging with MtH during nature-based movement. It asks: how are nature-based recreators sensing place through their haptic relations with more-than-human in US Forest Service trails? I introduce the concept, *haptic relations*, to describe the visceral human-MtH interactions that serve to establish sense of place for recreators during practices of nature-based recreation in these sites. Participants describe two general categories of human-MtH haptic relations at the root of sensing place for them: contact-based sensory relations and flow-based sensory relations. This data contradicts structurally presumed separations between humans and MtH, between recreational mobilities and placemaking, and between cutaneous touch and holistic human experiences. These forms of sensing-place also highlight the importance of USFS land spaces as essential sites for the recreation performed there, as well as for the MtH relations and practices of sensing place that they make possible. This research contributes to literature on MtH, nature-based recreation, US public lands, and placemaking.

## Introduction:

*Being outside it just feels right like I'm supposed to be out there, it feels like where I belong. It's so cool to me I get a feeling of belonging... gosh it's hard to describe belonging, its very freeing from whatever my daily pressures are I get relief from those expectations and gives me a little perspective on my priorities, if I'm not meeting expectation, there's so much more to life than being in academia, I appreciate that I'm getting a part of my life that's not complete when I'm not on the trails when I'm on the trails. (Vivica, Interview 1, 10/20/20)*

The feelings of belonging and connection expressed by Vivica, avid hiker, articulate the embodied practices of sensing place occurring within the Humboldt-Toiyabe National Forest trail places. These are intimate exchanges in which, “cultural identities, connections to place, and environmental practices are embedded in people’s everyday relationships with nature” (Poe et al, 2014:904). While there is scholarly attention to the relationship between place and sensing in general (ie. Ingold, 2000 & 2011; Basso, 1996; Swillens et al, 2021; Feld & Basso, 1996; Massey, 1994 & 2005; Barlett, 2005), scholars have expressed need for further study of the ways that humans sense place via nature-based movement<sup>11</sup> (Griffin, 2001; Brown, 2014, 2015, 2017; Humberstone, 2011 & 2013; Bell et al, 2017). Humberstone speaks to this in her observations of nature-based movement, embodied relations, and place:

Very little scholarship has explored how human beings learn to be in the natural environment through practice in adventurous/nature-based activities. That is few studies have tried to understand our corporeal and sensual relations with the natural environment when we are engaged through sport in nature or adventurous activities...A significant dimension missing from many studies is the way in which

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<sup>11</sup> Participant mobilities with/in trail places discussed here are referred to as: nature-based movement-outdoor recreation that takes place in nature settings where the recreator is in direct intimate contact and connection with the natural elements and surroundings (Humberstone, 2013: 496-497), term employed directly by Barbara Humberstone (2011, 2013), stemming from leisure, sport and tourism sciences, nature-based recreation (See Monz et al, 2021; Kil, Namyun et al, 2011; Dorwart et al., 2009; Rosa et al., 2019; and Remacha et al., 2011).

place/space and context influence affects/emotions—that is the ways in which the body learns ‘know’ from its environment. For nature-based sport or adventurous activities or physical cultures the context or environment or place in which the activity takes place is significant (Humberstone, 2013: 566-567).

This paper contributes to this gap in literature presented by Humberstone, showing the ways nature-based recreators sense places through their touch-based relationships with more than human (MtH)<sup>12</sup> natures. It asks: how are nature-based recreators sensing place through their haptic relations with more-than-human in US Forest Service trails? I introduce the concept, *haptic relations*, to describe the visceral human-MtH interactions that allow recreators to “sense place” and establish “sense of place” during practices of nature-based recreation in these sites.

Humberstone explains that within nature-based movement, recreational/leisure/sport activities are practiced in outdoor “natural” settings (Humberstone, 2011; Rosa et al, 2019), where practitioners are engaging directly with “the elements” (Humberstone, 2011: 497). *Nature*, a term susceptible to socioeconomic political and politicized pitfalls, will be taken to represent the dynamic and diverse USFS biological environments- MtH spaces that contain minimal human-developed urban structures/infrastructures and which consider humans as belonging within these natures. Natures are not considered to exclude humans as “natural” and as such, does not

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<sup>12</sup> Working definition for more-than-human is: any life and non-life, whether existing biological entities or human construction, whether in “natures” or urban settings. MtH space is “constitutive” not just “contextual” (Howe, 2015: 206) in human experiences. Scholars term, theorize, and define *more-than-human* in varied manners ( ie. post-human, non-human, beyond human, other-than-human, etc.) (See Barlett, 2005; Bennett, 2001 & 2010; Basso, 1996; Bell et al., 2017; Braun, 2006; Castree, 2012; Fishel, 2019; Haraway, 2008 & 2016; Wilkinson et al, 2020; Howe, 2015; Kohn, 2013; Lowenhaupt-Tsing, 2005 & 2015; Raffles, 2002; Tsing, 2017). These terms connote oppositional relationships between humans and MtH, perpetuating human-centered focus, which this paper does not promote. “More-than-human” is employed here for its inclusionary connotations- considering humans as part of, not separate from MtH.

represent these natures as void of humans in order to be “wild”. As reported by participants within the USFS trail context, MtH natures encompass the whole of the “natural world”, excluding existing or perceived human made societal/urban constructions. In their engagements with natures, recreators are in contact with, affecting, and being affected by the more than human via sensory experience. It is via these *relations* (Humberstone, 2013) that nature-based recreators come to experience and make meaning in places by *sensing place* (Massey, 2005; Feld & Basso, 1996). Therefore, examining the relations between human bodies and natures is essential for understanding precisely how trail places and belonging are conceptualized and experienced via movement.

For participants in this study, descriptions of, sensing place via *haptic relations* are evidence that further explorations into recreational mobilities and sensing place should be undertaken to better understand the MtH inter-relational placemaking occurring. This research follows Massey’s theorizing of place as relational, constructed and under construction, mobile, and, importantly- place as, “ a negotiation which must take place within and between both human and nonhuman.” (Massey, 2005: 140). In aligning with Humberstone’s understandings of place, this paper questions the existing structural assumptions of separation between humans and MtH natures and between mobile humans and placemaking. These forms of sensing place also highlight the importance of US public land spaces as essential sites not only for the recreation performed here, but also for the placemaking and belonging that they make possible. The concept of, *haptic relations*, has potential to be applied to many diverse contexts in which direct human engagement with MtH is to be examined, especially in regard to placemaking and

mobilities. This research contributes to discourses of mobile placemaking, sensory and embodied experience, visceral geographies, human-MtH relations, nature-based recreation, and USFS trail places.

Research methods employed in this project consisted of mixed qualitative methods: questionnaire, interview, journals, and photo-elicitation in the Humboldt-Toiyabe National Forest. Within this paper, I first present theory regarding relational sense of place to introduce this paper's central contribution of, *haptic relations*- a conceptual marriage of: *relations* (Humberstone, 2013), *haptic sensations* (Allen Collinson and Leledaki; Paterson, 2009; Allen-Collinson and Hockey, 2010), and *being affected* (Humberstone, 2013). I then present participant data on *haptic relations* in two main categories: contact-based sensory relations and flow-based sensory relations.

### **Sensing Places:**

This investigation contributes to micro scale “place-centered narratives” (Basso, 1996: 140), with particular focus on direct connection between nature-based movement, sensory engagements, more-than-human relations in places. This research moves from a Masseyan stance in considering space and place as relational, dynamic, and ever-changing/under construction (Massey, 1994 & 2005; Pink 2019). Nature-based mobilities allow humans to directly engage with and be engaged by MtH natures. Theoretically defining placemaking as inherently relational, mobile, and sensory is critical here. I first present a relational approach to sense of place and sensing place. I then outline the new concept presented by this paper: *haptic relations*.

*Relational Sense of Place:*

Massey's relational view of place lays groundwork for understanding how place is sensed and formed through relations. Relational interactions, according to Massey, are, "embedded" and "embodied" social interactions occurring between humans and MtH within "local" spaces (Massey, 1994 & 2005). Basso describes these forms of exchanges as a "reciprocal relationship": "a relationship in which individuals invest themselves in the landscape while incorporating its meanings into their own most fundamental experience" (Basso, 1996: 102). Place and place-making are not only productions of mobility and meaning, they are also made of *relations* (Massey, 2005; Humberstone, 2013; Stinson, 2017) between human and more-than-human (Massey, 2005: 140). More-than human (MtH) is understood relationally, following Ingold's lead in considering humans as emplaced within natures as opposed to separate from these natures- as embedded within, "the animate and the inanimate", an approach that "considers the land itself alive and relational to all other activities and actors present" (Ingold, 2000: 149). Ingold, also stresses the inherent mobile and sensory qualities of placemaking processes in general (Ingold, 2011).

As a field, visceral geographies, also considers the ways that the human body relates with their worlds via embodied, sensory, and visceral, interactions (Hayes-Conroy & Hayes-Conroy, 2010). Geographers are employing this visceral approach to explore the intersections of senses, embodiment, and place-making practices (Abdel-Malek Neil, 2017; Modlik & Johnston, 2017). But what, specifically, do movement, "sensing", and MtH place-making have to do with one another?

According to Raffles, “places are relational, involved in the complex articulations of affective geographies, tying humans and non-humans across time and space. Such places are formed in the complicities of human and non-human agency – and such complicities are further entangled through the work of place-making.” (Raffles, 2002: 183). Human-MtH relations, are contingent upon the inter-actions of humans and MtH in productions of place (See Bell et al, 2017; Dowling et al, 2016; Wilkinson et al, 2020; Dittmer, 2014; Braun, 2006 & 2008; Poe et al, 2014; Gallagher et al, 2017). MtH natures, make and remake with the human. Relations between humans and MtH in places are ongoing and always under construction (Stinson, 2017: 176) via the, “mutual experiences and movement” of human and MtH (Fishel, 2019:352). It is not only the humans perceiving the space in relation to the space itself. It is also the MtH place engaging with the human movement that places give and are given meaning (Ingold, 2000: 193).

For nature-based recreators, these human-MtH relations are experienced via the senses. Humberstone explains that, “it is through our senses that we engage with the world and particularly make our relationships with nature and the elements.” (Humberstone, 2011: 497). It is through sensory experiences in nature that people come to know, commune, imagine, remember, and make meaning in places with MtH.

How is place sensed for nature-based recreators? Within geographical scholarship, placemaking occurring via voluntary and recreation-based mobilities in nature remains unaccounted for. When focusing on mobilities and placemaking, research tends to focus on mobility as equating with migration or tourism (see Flemsaeter et al 2015; Longhurst et al, 2008; Baaerenholdt & Haldrup, 2006; Schilar & Keskitalo, 2018;

Kil et al, 2011; Abdel-Malek Neil, 2017), as embodied motion in nature-based settings (see Humberstone, 2011, 2013), as recreation and placemaking (See Kruger, 2006; Lee, 2011), as knowing places via the moving and sensing human body (See Allen-Collinson, 2018; Allen-Collinson & Leledaki, 2015; Allen Collinson & Hockey, 2010), and even as the mobilities of more-than-humans (Fishel, 2019). But, what is lacking is focus on the ways that recreation-based mobilities trigger the sensing of places, which in turn incite feelings of belonging and practices of placemaking. Ironically, mobility had typically been theorized as a factor disjointing people from place and natures, but Poe et al. (2014) describe how mobility in spaces creates ties to place, creating, “deeper, more intimate knowledge” of their environments (910). Place focused scholars theorize place and space as inherently mobile processes of making. For example, Low and Lawrence-Zuniga insist on, “conceptualizing space as movement rather than as a container” (Low and Lawrence-Zuniga, 2004: 5). Ingold contends that all place-making is inherently mobile (Ingold, 2011: 12). Instead of viewing movement as a place-detached set of practices, instead, we must consider movement as embedded within and tied to open and dynamic places, as a means of “perpetual becoming” wherein actors are considered embedded within the “production” processes of continual place-making due to movements in these spaces (Ingold, 2011: 12).

*Haptic relations:*

Haptic relations bring together the human and MtH involved in sensing place with the modes and points of contact for these relations: haptic sensations/experiences.

Paterson defines *haptic* as, “those everyday embodied experiences of touching and



feeling, conjunctions of sensation and emotion that cannot arise without the physicality of the body” (Paterson, 2009: 766). Haptic, according to Paterson, is made up of not only “cutaneous touch” and “immediate skin contact” but also includes “internally felt bodily sensations” and other sensory and psychological sensations (Paterson, 2007 & 2009). The complete range of somatic senses within haptic experiences are essential for this paper they account for the, “interaction between different internally felt and outwardly orientated senses.” (Paterson, 2009: 768) that participants in this study describe. Paterson highlights Gibson’s original contribution to the discussion of haptic and the haptic system in which haptic experiences are reflexive and relational exchanges between feeler and felt, between the body and the environment (Allen-Collinson and Hockey, 2010:336). According to Gibson, “It is the perceptual system by which animals and men are *literally* in touch with the environment (Gibson, 1966: 98, original emphasis).” (Paterson, 2009: 768).

The sensory and tactile MtH experiences of humans practicing nature-based recreation, do not stop at the skin, these physical and embodied experiences connect mind and body, as well as their internal to their external MtH worlds. Humberstone explains that:

the strong awareness and connections with the environment through the senses and body, [highlight] the sentient nature of embodiment. It draws to the fore the affective in analysis exploring the ways in which the body and senses feed into emotions through physical activity in the natural environment (Humberstone, 2011: 495).

As opposed to the stereotyped, “mind/body divide” (Pink, 2015:26), when considering sensing, the body and mind work in conjunction to feel, interpret, and make meaning in embodied and sensorial experiences with the MtH places in which they move. Allen-

Collinson urges us to understand, “our minds and bodies” as, “inextricably connected to, and interwoven with the fabric of the world, so that mind/body/world are closely braided and mutually influencing.” (2018: 66). Mind, body, and MtH biological environments are working together to make place within contexts of nature-based movement. This sensory embodiment is central to these processes. According to Pink, embodiment is, “a *process* that is integral to the relationship between humans and their environments.” (Pink, 2015: 27).

Haptic contact, then, physical and mental, is means of making-place via relations. If place-making occurs via relations and haptic engagements are what instigate these relational exchanges, then *haptic relations* are apt conceptual tools from which to approach understanding the intimate and embodied place-making of nature-based recreators. Here, I define *Haptic relations* as: the intimate and embodied human-MtH relations coming about thru haptic contact in all its forms. Participants involved in this study, describe their haptic relations with MtH trails as the root of how they are sensing places within these USFS spaces. Nature-based mobile experiences afford practitioners “engagement of multiple senses” and direct access to the biological environment for mobility and play (Rosa et al, 2019: 687) through which practitioners are in-tune with and connecting with the MtH trails. Haptic relations are experienced as human and MtH sensory embodied *exchanges* occurring via a wide range of haptic sensations/experiences. Participant data demonstrates that as recreators practice nature-based movement, they come into multidirectional haptic contact with the nature-based surroundings, which affect the human recreators in physical, mental and whole self ways. These interrelations

are expressed as two main forms of haptic relations: contact-based sensory relations and flow-based sensory relations.

### **The Humboldt-Toiyabe Trails:**

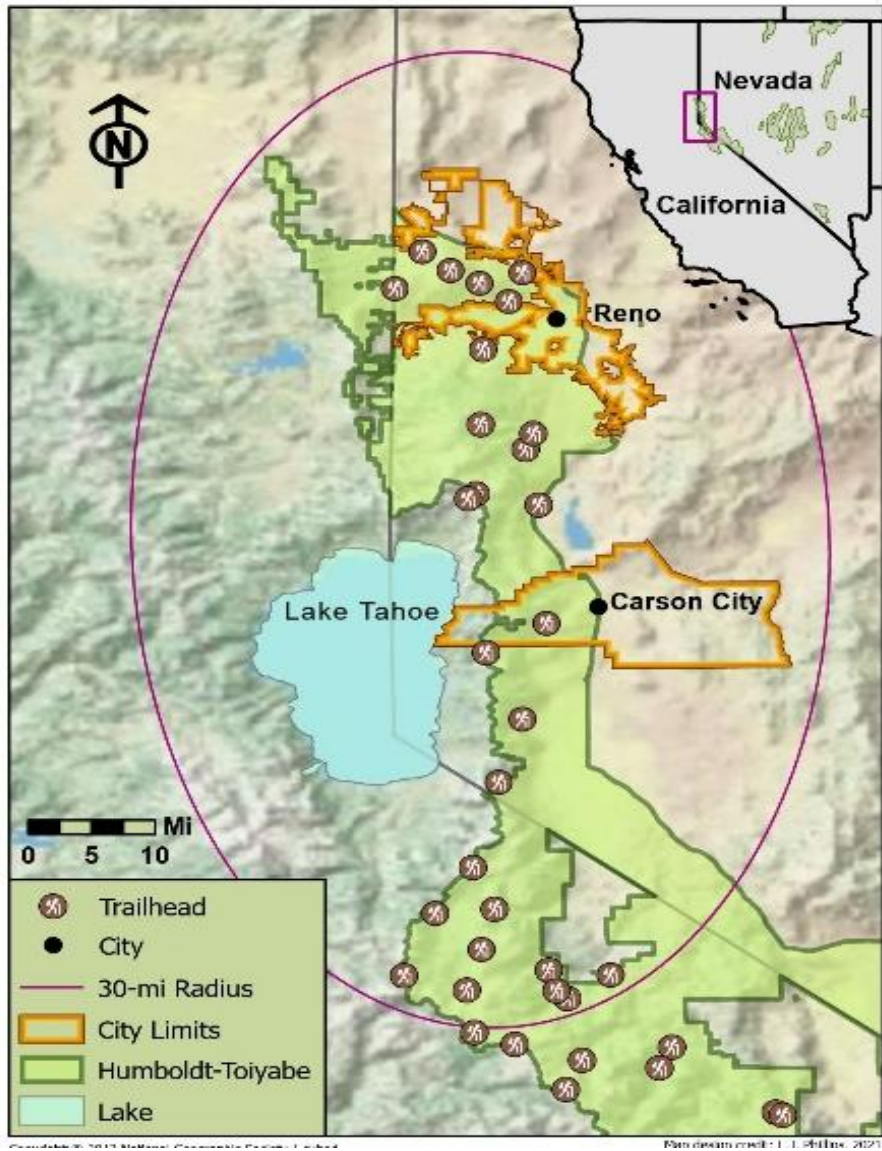
This research was completed on no-fee USFS single-track trailheads throughout the Humboldt-Toiyabe National Forest within 30 miles of the Reno/Carson areas. US Forest Service lands were selected as focus due to their long history of recreational use (Ghimire et al, 2016: 458; Wilson, 2014:1). Of the 590 million acres of various public land designations, 193 million acres are national forests and grasslands. This region has been chosen due to the relative ease of accessibility of these trailheads by a wide range of recreators from the adjacent metropolitan areas (Reno, Carson, Truckee, Sacramento, etc.). This region also boasts large number of no-fee trail heads and multi-use designations that are open for multiple forms of nature-based recreation (ex. hiking, trail running, mountain biking, horseback riding, dirt biking, etc.).

This paper draws on mixed methods qualitative research completed from June 2019 through February 2021 examining the embodied and socioeconomic relationships recreators experience with/in nature in USFS trails. This study employed a mixed methods approach that included: questionnaires (in-person and via email), interviews (telephone and Zoom), journals, and photo-elicitation (Pink, 2014). From the initial voluntary surveys conducted at trailheads within 30 miles of the Reno and Carson NV areas, 95 questionnaires were completed by trail recreators. Of these, 14 key participants opted to continue participating in a longer term study. These participants reside and work

within the Reno and Carson Nevada areas as well as the Truckee, California urban areas. They access USFS trails on the Humboldt-Toiyabe on a regular basis, from one to seven days per week via several forms of nature-based recreation: mountain biking, hiking, trail

Figure 2.1

Map of study area in the Humboldt-Toiyabe National Forest



**Note:** Map highlights the region of Humboldt-Toiyabe National Forest included within this study and study location in relation to the greater states of Nevada and California. Marked USFS trail heads are listed within the map, however, many trailheads exist that are unmarked and unmapped. Map created by Lauren Philips (2021).

running, birding, snowshoeing, cross country skiing, and nature observing. Participants range in age from 27-78. Participants originate from geographically distinct areas of the country and demonstrate a wide range of occupation, education, and income. What these participants share is that they each make nature-based recreation a principal requirement in their life and livelihood and have moved to (or stayed in) this geographical region to have greater ease of access to USFS trails.

The Humboldt-Toiyabe National Forest, 6.3 million acres and boasts 150,000 miles of multi-use recreational trails. Trails within this region wind through many different altitudes and climate regions, with high desert scrub in the lower elevations around 4,500 feet and up to alpine forests and open vistas along the High Sierra mountain tops upwards of 10,500 feet. These lands are not only prized for recreators due to recreational opportunities, but also due to the relationships with nature (Clayton, 2019: XV) through their moving bodies that these lands make possible

For long-term participants, data collection began with emailed questionnaires in which they were asked general information about their trail use and history in the area. Following this, we completed telephone interview that allowed participants to expand on their trail use and thoughts on recreation on public lands. I then emailed participants instructions and prompts for the trail journals. Each participant, although beginning the journaling at varied times, had one month to complete and submit at least 6 trail journal submissions. Most submissions were recorded via typed format completed after the trail experience was over, however, some did also employ voice recording while on the trail. Lastly, we completed a one hour Zoom interview where I asked participants questions

pertaining to the research experience, how they value USFS trail places, their relations with the trail places, and their mobilities in the trail places.

The majority of the research period occurred during the COVID-19 pandemic, which restricted contact between researcher and human participants but fostered a methodology that was participant guided. Participant journaling in the form of *trail journals*, was effective for this research as it allowed participants the solitude and space in which to observe and record their experiences without researcher presence. Participants expressed that this format allowed them to be vulnerable and pensative on their trail experiences and gave them time to ponder the questions I had posed as loose guides for the journals. The trail journals constituted a form of auto-ethnography and aimed to give the *auto-* reigns to the participants themselves. This allowed for “in situ” (Brown, 2015: 664) and real time recording of haptic, embodied, MtH, place-making, and mobile experiences.

This paper does not directly focus on the conquests and exclusions of these now “American” and “public” lands. This research represents the lived experiences of the nature-based recreators who participated in this research, self selected from an initial random sampled survey at trailheads, and their particular relationships with USFS trails. As such, it does not, and cannot represent *all* experiences past, present, future occurring within these same sites. Contributing to a holistic understanding of their experience are the colonial legacies, historical and present within these US public land spaces (Kosek, 2016; Savoy, 2015; Finney, 2014, Mills, 2014; Kosek, 2006; Deming & Savoy, 2011; Boyd et al., 2018; Minor & Boyce, 2018; Moore, et al.,1994).

### **In Touch with the USFS Trails:**

Nature-based recreators represent the “reciprocal relationships” between humans and MtH places, described by Basso (1996:102), that allow humans to “invest” and make meaning in their environments through direct experiences. These relationships, “negotiations” (Massey, 2004: 140), with/in natures allow recreators to sense and make place via their sensory engagements with the MtH in USFS trails.

These human participants actively choose unpaved single-track trails within the Humboldt-Toiyabe so that they may move with/in natures, be away from urban structures and rules, and connect and feel with/in natures: connect and feel themselves, fellow human recreators, the trail, the vistas, the weather, and all of the other MtH involved in their trail experiences. In our closing interview, I asked participants why they choose to recreate on the USFS trails as opposed to other environments/contexts. Stewart explained why:

...on a trail I can feel like I'm a member in this, I'm a current member in this snapshot of this ecosystem, and it's kinda like whatever human construct I've established with myself none of it matters. Like, I don't think any of the wildlife flora or fauna would be concerned with stupid human priorities like time and stuff like that, it's kinda like... very its very humbling, kinda like step back and just realize that aside from all of the nonsense that I deal with on a day to day, like, this place is here ... I don't feel hurried on a trail so, it feels like a lot more relaxed pace and slow. (Stewart, closing Zoom interview, 12/3/20)

Connection with natures in trail places is a common occurrence for nature-based recreators and are rooted in the sensory exchanges and relations occurring between human and MtH. These connections are described by recreators as feelings of belonging

and grounding that they experience within these USFS trail places, feeling in place and emplaced, feeling part of. Recreators consider these trails to be home, where they can be themselves. In our interviews, Dorothea describes her close connections to and with MtH natures via her hiking within USFS trails. She is an avid hiker at 74 years old and bought her house in Carson, NV to be near these trails. When she speaks of her time on the trails, her face lights up and she depicts her feelings of belonging, where she feels the most herself:

It's like I'm part of this and I'm connected to it and because I'm one of these beings that came out of this earth substance and I'm part of it and... when I'm alone and not hiking with anybody I don't have to think about, 'oh I'm [Dorothea] and I'm such and such, this biography and this name. No! Just like I'm here experiencing all of this I'm in the middle of all of it whether it's a tree or the air or the sky or the rocks or a bridge or some chipmunk or something. (Dorothea, closing Zoom interview, 1/5/2021)

Dorothea makes direct reference to the ways that she gets to be her true self within these trail places, where she does not need to explain to anyone who she is in human-culturally approved modes. She can be present and connect to and with the MtH natures she encounters in the USFS trails. Like Dorothea, trail recreators feel connected to these trail places via their movement there. And these trail connections stay with them, no matter where or when they are. Through their physical/affective/mental haptic experiences, participants feel part of place. Participants describe themselves as embedded within these trail places, connected through their haptic engagements as part of these MtH systems of exchanges specific to these movements in these USFS trail places. Haraway (2016:2) refers to these MtH, non familial “kin” as *oddkin*, to include the, “human and other-than-human beings in kinship”. These MtH relations of community, of *oddkin*, are experienced



wholly and deeply by participants (“I like to feel like the nature is a part of that social experience like it does feel personal and good.” (Vivica, closing Zoom interview, 1/15/2021)). Participant reports of their haptic trail relations with MtH reflect Tempest-Williams sentiments that, “The word ‘we’ must include all species...to see ourselves as ‘one species among many,’ not the indomitable center of a human-developed world.” (Tempest-Williams, 363). Trail recreators experience and express this “we” via their enplaced sensory relations with MtH, their haptic engagements that result in feelings of belonging and home. They are sensing place via MtH relational movement, and for these recreators, their sensory engagements are *haptic relations* that are a gateway to connection and sensing place. Participants describe these MtH relations in two main categories: contact-based haptic relations and flow-based haptic relations.

*Contact-based haptic relations:*

I find that all of my senses are heightened when I am out on Forest Service trails, and that I am not only more in tune with nature, but with myself, because of this fact. (Gina, Questionnaire, n.d.).

Gina’s sensory experiences translate into relational connections with nature and self, rooted in haptic contact with MtH natures. Participants describe their haptic experiences as stemming from initial touch, feel, physical contact and then subsequently spreading to visceral, mental, spiritual, and memory-based relations. This is evidence of the holistic ways in which touch and feel are experienced by the complete and whole self of the nature-based recreator (ie. skin/body/mind/soul/memory/etc.). Purposeful attention to elements of the trails and the ways that their bodies come into direct contact with the

trail places is common for trail recreators. These become modes of how recreators come to know, recognize, and make meaning and memory in trail places. Dorothea for example, practices walking meditation while on the trail in which she spends five minutes focusing on one of her senses at a time in order to be as present and connecting with the MtH trail places as possible. These are complex felt experiences that radiate throughout the recreator's whole self and lead to feelings of relational belonging, "communion" as described by Dorothea:

There's so many touch sensations, the feeling of the air ...how your body feels when you're hiking along...I feel quite a lot of communion with the trees. I do feel something, certain trees, I kind of befriend,. . .I dunno....if it's hot you stay in the shade of them if its windy you stand in the lee side for a minute. . .But walking, you're more, your communion to me is more with the land and the way the land forms and the way it flows it goes up and down and the mountains going up or the stream or the drainage, its more dynamic. (Dorothea, closing Zoom Interview, 1/5/2021)

Participants spoke often of their relations with and feelings about trees along the trails.

Trees are more than just waypoints, the trees are alive and lively contributors to participant time on the trails. Recreators notice how being around the trees makes them feel differently and they contrast experiences had in the lower elevation sage scrublands versus being up in the higher lands with the Aspens and Pines. Movement within the trails allows for "closeness" with the trees and other MTHs:

I do feel a closeness to the trees...one time, within a weeks time, I went to the same trail three times with different people. And I thought, this is kind of nice because if you do that you begin to see slight changes from one week to another in the trail and you also become familiar ...we're at this bend in the trail and there's that rock, or there's that beautiful tree that's so bent. Whereas in the summer it's fun to go back and greet the same wildflowers year after year after year. I know a friend that's really into flowers. To her, flowers are friends and she knows all the scientific names and going back to see that particular one

is like greeting a friend. So, she introduced me to that concept. (Gina, closing Zoom interview, 1/18/2021)

Gina and her human friends make these interpersonal connections with the MtH flora and fauna of the trails. These relationships with the MtH are embedded in the trail experiences. They even make special visits to these trail places when they know that their MtH friends will be present. The MtH elements of the trail are not just “contextual” for recreators, participants are purposefully creating relations with the MtH. These trail goers consider the trail and the MtH as community members to be seen and cared-for, whether it is the trail surface itself that people avoid damaging when it is wet, or it is the sites/attractions/plants/animals/weather/etc. along their trail journey that particular day. John visits “The Arrow” on his run and shares his longstanding relationships with this place, his desire to care for it, his visceral and embodied response to visiting it, and the importance of it for the way he understands this trail place in the hills above Reno. It is common for trail goers to have particular destinations or trail points that they look forward to visiting during their nature-based movement. The following is his trail journal entry (including photo-elicitation) from his running visit to The Arrow:

Today was all about seeing ‘The Arrow.’ ... It was a crisp, clear morning in the low 30s, and you could see your frosted breath as you ran.

My goal was to travel to the “Hole in the Wall,” then go off trail a bit to find “The Arrow.” I’ve known about “The Arrow” since I was a teen-ager, when I first started hiking and running our local trails. I stumbled upon it one day while in high school. Near the top of the “Hole in the Wall” is a massive concrete arrow. It literally points toward Reno. It was used by the mail service’s airplanes from the 1920s, which used the concrete arrows to guide themselves in and out of the many western cities they served. There used to be concrete arrows like the one that survives at the top of the Hole in the Wall all over the United States. Now they are extremely hard to find.

As I make my [way] up the trail to The Arrow, I can feel my breath gather in anticipation. My pace increases and I grow excited. Due to some injuries at the beginning of the pandemic, I haven’t been to this particular spot in a

long time. When I reach The Arrow, which is at least 10 feet long and 10 feet wide, I stand near it. I don't dare stand on it, worrying that if I touch it I might cause it wear out. I take a long look at it, and think I might take a photo of it, then think better of it. If I post the photo to my social media, then people will ask about it, and they too will want a photo of it. The unintended consequences of taking a photo of The Arrow are serious. Like anyone else, I believe in the restorative power of our open spaces. But we need to be cautious in our dealings with them. To put this cultural and historic resource at risk isn't worth it.

I wave good-bye to it and head back down to the trail.

**Figure 2.2**

*John, trail journal, 11/21/20*



*(“John, Trail journal Saturday, Nov. 21, 2020, Location: Michael Thompson Trailhead, west Reno. Mileage: 10 miles. Type of activity: Hiking/Running.”)<sup>13</sup>*

*Note:* Example of photo-elicitation practiced in trail journals. Caption provided by participant in journal.

John shares his visceral encounter with the arrow. He has an intimate and emotionally attached history with this place that he has nurtured for over thirty years of his life. John describes the ways he is affected by and affecting this place with his presence. Participants experience trail places in this way, feeling strong connection to and responsibility for their trail places. For John, one of the advantages of running trails out into the mountains is the ability to reach and visit these special places that are not otherwise accessible. While he is careful not to physically touch The Arrow, he is touched by The Arrow in this experience. His care and concern for The Arrow demonstrates the emotional connections to MtH places that are born from haptic relations. Alyssa describes this as well:

I feel like it teaches me something as well about knowing my body and placing my foot on the ground and feeling that connection and then it kind of is like a ripple effect like how my knees feel then how to my hips feel and then am I moving my arms as I move up, I feel this ripple effect it starts in my feet and then it goes all the way up...am I being gentle and soft with the earth while I'm running you know am I just tapping the ground lightly am I springing off the ground. There's this sense of being gentle when I touch the ground cuz, it's so funny, I'll use [my daughter] for an example when I take her hiking, she touches like every rock she sees and she like hugs it shell smell trees and shell touch plants and I'm like yeah we gotta be gentle just like how I teach her how to pet the dogs. There's just something that tells me that we need to be gentle with the earth. So I think leaving the least amount of impact that I can but still enjoying the outdoors. (Alyssa, closing Zoom interview, 2/9/2021)

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<sup>13</sup> Formatting reflects John's original trail journal submission

Alyssa moved to Reno to be near US public land trails. When she moved from the Midwest, she explained that her family was supportive because they knew she would lose so much of herself if she weren't able to access public land trails on a regular basis. She is an avid hiker and trail runner in the Humboldt-Toiyabe and is acutely aware of the power of touch within these places as points of connection, whether productive and harmless or destructive. These haptic connections between her and the MtH elements of the trails are a regular occurrence within her trail running and hiking experiences. Throughout her participation, she described the importance of teaching the “responsibilities” of trail relations to her young daughters. For Alyssa, the physical points of contact include not only the cutaneous touch of the foot to the trail or hand to the trees, but also the olfactory connections when smelling and relating directly to the MtH biological environment.

Participants explain that physical touch exchanges happen incidentally as well as purposefully with natures. Participants engage in direct haptic touch with MtH for many reasons. It may be curiosity of textures, temperatures, and sensations, or may be motivated by knowledge of what connection and relations (“the touch of your feet on the ground” (Dorothea, closing Zoom interview, 1/5/2021)) with MtH provide in that spatial context, or perhaps it may be memories of their previous direct haptic engagements that spur them to purposefully touch the MtH. Vivica is a PhD student living in Reno. She frequents the USFS trails mainly to see wildlife and to be outside with/in natures and to commune with the MtH there. She explains the purposeful connections she makes with MtH natures and how they “anchor” her to these places:

I love the texture of like, moss. I love reaching up and touching trees or anything low hanging as I'm going along the trail. So, I really do feel the need to like touch everything... it feels grounding when you touch something, like it kind of anchors you there and makes the experience more real... I feel like one of the ways I deal with stress is... by disassociating and sometimes I just disassociate for too long and get kinda stuck in a pattern of where I go like weeks of where I'm not really feeling anything fully. Versus... if I go outside where I can really like feel something besides this stupid keyboard in front of me, like, it's [a] completely different experience, it kinda just brings me back to the present, it makes me feel very present. (Vivica, closing Zoom interview, 1/15/2021).

Like Vivica, recreators involved in this research describe the “grounding” properties of their connections with MtH natures in the USFS trail places. And like Vivica, they describe how haptic relations, whether direct or indirect are essential for this grounding, emplacement, and being present. They report this as being one of the main reasons why participants practice nature-based mobilities with/in these spaces.

Participants describe their time in nature as the “real world” where they can go to be “grounded”, to come back to their “roots”, to “feel very present” (Vivica, closing Zoom interview, 1/15/2021). In so doing they set up sensory and embodied comparisons between urban capitalist life and their MtH mobile trail making, described by John, “I become so aware of my body as opposed to say my normal job where I'm just sitting here typing away” (John, closing Zoom interview, 11/8/2020). The experienced “benefits” reported by participants are not only occurring *due to* the haptic relations experienced by participants, but are also *contributing to* the connections and feelings of connection experienced within these places. Oscar, retired pilot and avid hiker, describes these connections between the cutaneous, sensory haptic relations experienced and the

subsequent memory relations that these conjure, expressed as feelings of comfort and home:

Just hiking along in Gortex, feeling the drops on my face is exhilarating. The smells are different and earthy. Made me think of my grandmother's homemade vegetable soup and dilly bread. Good childhood memories. (Oscar, Trail Journals, 2/7/2019<sup>14</sup>)

Oscar traces the connections between his direct contact with MtH natures in the trail place and the internal reactions he experiences. The raindrops trigger his memories of home and other sensory-based perceptions of home. While moving in the trail places, it is common for participants to reflect and connect both outwardly and inwardly due to the “experiences and the sights and sounds and sensations, just the whole experience of being outdoors,” (Gina, closing Zoom interview, 1/18/2021). These are all means of sensing place with/in trail places in ways that allow recreators to actively feel part of these places.

*Flow-based haptic relations:*

Flow is a particular combination of relations between MtH environmental circumstances and haptic experiences. Within the flow state, “full” connection is made between the recreator’s mind/body/soul with the MtH, “when everything kind of coordinates right and you’re just walking, it’s like dancing” (Dorothea, closing Zoom interview, 1/5/2021) and, “It just feels like you don’t have any cares, you’re looking around and everything you see is natural and beautiful and you[‘re] just...in paradise...”

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<sup>14</sup> Oscar journaled regarding the previous year’s hikes due to the COVID-19 pandemic and his avoidance of the USFS trails during the research period. Oscar hikes every day on USFS trails in non-pandemic times.



(Alan, closing Zoom interview, 12/16/2020). Flow state is a “feel” of being fully immersed in the place and in the motion. Flow state is defined as:

the physiological changes and sharpened awareness occurring at times of ‘peak’ experience or performance in sport...the state of being that participants...experience in a variety of nature-based, adventurous sports when they identify as being ‘in the zone,’ ‘feeling a buzz,’ ‘stoked,’ ‘feeling good,’ ‘at one with nature,’ ‘being timeless’ and so forth. (Humberstone 2013: 268).

In our closing Zoom interviews, I asked participants if they knew what flow state is and if they have experienced it before. Each participant is familiar with this concept and expressed that flow state is one of the reasons they choose to recreate on these USFS trails. They describe being in this state as a pure form of pleasure, of losing themselves, and of becoming one with nature, their body, their mind, the trail, and their mobility apparatus (ie. bicycle). While much literature on flow state describes it as elusive, trail recreators in this research, describe it occurring often in their trail time, that they seek these sets of sensory feelings and experiences that connect them with the USFS trails. What keeps this state from occurring most often, according to these participants, are urban infrastructures and norms, the presence of other humans, and if their bodies are extremely exhausted from a previous days’ trail adventure. They explain that they are the most connected to the MtH trail places and themselves when in the flow state. Erie is a mechanic for the local ski areas, a school teacher, and a mountain biker. He rides the Humboldt-Toiyabe trails daily. In his trail journal, he shares his connections with the trails and what this flow state feels like:

I feel a deep connection with the natural world when I'm on the single track. Not only the physical feeling when those tires bite into the soil at a hard turn but when you get into a comfortable place where you're finding that balance between yourself, the bike, the

weather, fitness, and technical skill level that you are just flowing through nature like the wind...The feeling is maybe best described as a distancing of all the white noise and stress from normal daily life...It's a beautiful sensation where you are focusing on everything and nothing at the same time, this allows your consciousness to open up and really connect to the trail and nature surrounding you. This connection resonates a deep and profound peace that is both electric and still at the same time...you're finding that balance between yourself, the bike, the weather, fitness, and technical skill level that you are just flowing through nature like the wind. It feels like infinite freedom for a finite instant...My entire being feels the ultimate expression of freedom. When you have eliminated all outside distractions and your mind settles into that place of focus and peace and you can just ride and experience the trail on your own terms. (Erie, trail journals, 11/1/2020)

Erie's entry regarding flow state reinforces the connections between the holistic haptic experiences of these trail recreators and the resulting connection to MtH places resulting from these. Erie is connected to the trail and "nature". He feels "balance" between self and the MtH co-factors in the trail recreating experience. This emplaced and simultaneously embodied and disembodied set of feelings is described as connecting with trails via haptic relations while affording "freedom" from mental and bodily distractions that may be preventing true connection with the MtH trail places. John expands on this:

There are times where the flow state is where it's all about the body and the energy that you're spending and just kind of like this equilibrium that you establish physically. There's also sort of like that mental flow state where you start out and you have one set of problems or challenges on your mind and then kind of like whatever you're experiencing...goes away... And so, the mind is flowing in a way where it's just like along with the trail and everything that I'm taking in, this is a perfect state that I'm in. ...Where the mind is in the right place and the body is moving in the right way. ... if you're able to find that where you're moving smoothly and efficiently, and you feel like you're kinda one with the trail ... It's a nice feeling. (John, closing Zoom interview, 11/8/2020).

Connection with all elements of the trail experience is at the center of flow state for these participants, as John shares above. This connection for these recreators is the ultimate feeling of belonging and being in place. They describe this as being fully embedded and enmeshed on all levels: mind, body, energy, soul, etc. As John and Erie explain, the perceived separations between self and trail and mind and body disappear within flow state. What remains is pure connection to MtH trail and to whole self through their haptic engagements. Alyssa echoes these relational feelings of being “connected”, “part of” via haptic relations:

I don't want to say floating cuz that sounds weird. It's like when I'm trail running and I'm dodging rocks and stuff, like I feel invincible and unstoppable...I go from a very conscious place to a very unconscious place, like in the zone...I feel like I'm more a part of the world. ..like ...feeling more connected, it's like my spiritual self is experiencing something, I don't want to say something different than my body but it's as if, well we are all animals I guess...(Alyssa, Closing Zoom Interview, 2/9/2021)

Flow state is a unique experience in which the recreator feels fully emplaced and connected to their whole selves and to these MtH trails. In USFS trailplaces, “you feel a sense of belonging” (Elisia, Closing Zoom interview, 12/30/2020). Participants describe all components (human and MtH) of their experience as coming together perfectly/synchronously to allow the flow state to occur. These holistic haptic engagements between self and MtH (ie. trail, weather, environment, gear, etc.) are purposefully and actively sought after by participants, as Dorothea explains about flow state, “it's one thing I'm... going for” (Dorothea, Closing Zoom Interview, 1/5/2021). Within trail places, participants are experiencing and practicing haptic based relations with self (mind/body/soul/spirit/etc.), other humans, as well as with/in the MtH trails in

which they recreate. Nature-based mobilities instigate haptic relations which in turn, facilitate sensing place- building self and connection in relation to and in conjunction with these USFS trails.

### **Conclusions:**

What do people make of places? The question is as old as people and places themselves, as old as human attachments to portions of the earth. As old, perhaps as the idea of home, or ‘our territory’ as opposed to ‘their territory,’ of entire regions and local landscapes where groups of men and women have invested themselves (their thoughts, their values, their collective sensibilities) and to which they feel they belong. The question is as old as a strong sense of place – and the answer, if there is one, is every bit as complex. (Basso, 1996: xiii)

Raffles describes place as always in motion, always in, “that flow of becoming” (Raffles, 2002: 183), made through, “physical, corporeal action.” (Raffles, 2002: 62). Place is complex interrelations and connections between human and MtH (Bennett, 2010: 4; Massey, 2004). This paper has explored these complex relations, through the haptic relations of humans and MtH trails. This paper has explored how nature-based recreators sense place through their more than human haptic relations with/in US Forest Service trails. Participants show that their haptically-based relations with MtH trails are central to their connections to these places, demonstrating the ways that place is formed via mobile and sensory based exchanges between human and MTH. I have introduced here the concept of *haptic relations* to represent the human-MtH relations of sensing place occurring during nature-based recreation in USFS trails.

This research combats the contemporary academic assumption that mobility is an obstacle to making place (ex. Massey 1994: 151). Through recreator haptic relations of sensing place, this research is able to: re-locate humans within places and within the

MtH, highlight the importance of mobility for sensing place, to showcase USFS lands and trails as essential sites for human-MtH haptic exchanges, and to recognize haptic experiences as “points of contact” for the human-MtH relations that foster processes of sensing place. It demonstrates that mobile communities do indeed make meaningful places. They practice the, “pro-duction (bringing-forth) of perpetual becoming” that is place-making (Ingold, 2006: 12). Participants are building MtH connections through their haptic experiences, the “trail is communal” (Alyssa, closing Zoom interview, 2/9/2021). This perspective places humans firmly within the MtH, as part of, as opposed to external to it (Ingold, 2006: 12) as, “Nature and body are co-produced” (Howe, 2009: 309) along with places. This perspective allows for an open and dynamic view of the human-MtH worlds we inhabit and that inhabit us. For recreators, the USFS trails are places of what Massey refers to as, “the negotiation of relations within multispecies” (Massey, 2005: 13). These are made via haptic experiences: direct and indirect physical, mental, and emotional contact with the MtH geographical spaces. These places are also carried away from these physical spaces via imagining and memory. Trailplaces, are “social spatialities”, they are “relational”, “tying humans and non-humans across time and space” via processes of mobile place-making (Raffles, 2002:183).

USFS trails are spaces where recreators are able to connect fully with themselves and MtH via their mobilities and the haptic relations that these produce. USFS lands are invaluable sites of sensing place for nature-based recreators and the MtH. Without access to these lands as natural spaces, recreators describe that these relations, identities, lives, and livelihoods would not be possible. Human bodies/whole-selves contact and relate with MtH within these spaces, locating, “humankind within the biosphere” (Barlett, 2005:

3). This research highlights the importance of body movement for recreators and MtH within and with natures in USFS trails, and the access to these single-track trails.

Participants in this project stress the importance of these “wild” places for them to be their whole selves, for their health, for their survival and for them to make place with/in and as part of the MtH.

In these movement-based and nature-based movement experiences, body, mind, sensing, self, natures, and MtH are all engaged and compiled to understand and define place. *Haptic relations* represent these means of sensing place. This research connects and contributes to previously distant fields: visceral geographies, nature-based recreation and movement, sensing and embodiment, and more than human geographies. Through participant data, it has demonstrated the importance of USFS trails for haptic, mobile, and MtH processes of sensing place. Place matters, place-makers matter, and considering all contributors to sensing place matter- human and MtH. *Haptic relations* provide a resource for identifying and representing the embodied, mobile, and MtH place-making occurring in these trails. This research contributes to the growing body of works attempting to represent mobile and more-than-human strategies of place-making. Haptic relations can be employed as useful analytical tool for scholars and practitioners working with H-MtH relations, sensory engagements/experiences, and mobilities in any geographical or spatial context.

### Works Cited:

- Abdel-Malek Neil, M. (2017). Affective migration: Using a visceral approach to access emotion and affect of Egyptian migrant women settling in the region of Waterloo, Ontario, Canada. *Emotion, Space and Society*, 25(2017). 37-43.
- Allen-Collinson, J. (2018). 'Weather work': embodiment and weather learning in a national outdoor exercise programme. *Qualitative Research in Sport, Exercise and Health*, 10(1). 63-74.
- Allen-Collinson and Leledaki, A. (2015). Sensing the outdoors: a visual and haptic phenomenology of outdoor exercise embodiment. *Leisure Studies*, 34(4). 457-470.
- Allen-Collinson, J. and Hockey, J. (2010). Feeling the way: notes toward a haptic phenomenology of distance running and scuba diving. *International Review for the Sociology of Sport*, 46(3). 330-345.
- Baerenholdt, J. O. and Haldrup, M. (2006). Mobile Networks and Place Making in Cultural Tourism. *European Urban and Regional Studies*, 13(3). 209-224.
- Barlett, P.F. (2005). *Urban place: reconnecting with the natural world*. Cambridge: the MIT Press.
- Basso, K. (1996). *Wisdom Sits in Places*. Albuquerque: University of New Mexico Press.
- Bell, S.J., Instone, L., et al. (2017). Engaged witnessing: Researching with more-than-human. *Area*, 28(50). 136-144.
- Bennett, J. (2001). *The enchantment of modern life: attachments, crossings, and ethics*. Princeton: Princeton University Press.
- Bennett, J. (2010). *Vibrant Matter: The political ecology of things*. Durham: Duke University Press.
- Boyd, F., White, M.P. et al. (2018). Who doesn't visit natural environments for recreation and why: A population representative analysis of spatial, individual and temporal factors among adults in England. *Landscape and Urban Planning*, 175(July 2018). 102-113.
- Braun, B. (2006). Environmental issues: global natures in the space of assemblage. *Progress in Human Geography*, 30(5). 644-654
- Brown, K.M. (2014). Spaces of play, spaces of responsibility: creating dichotomous geographies of outdoor citizenship. *Geoforum*, 55(2014). 22-32.
- Brown, K. (2015). Leave only footprints? How traces of movement shape the appropriation of space. *Cultural Geographies*, 22(4). 659-687.
- Brown, K.M. (2017). The haptic pleasures of ground-feel: The role of textured terrain in motivating regular exercise. *Health and Place*, 46(2017). 307-314.
- Castree, Noel. (2012). *Making Sense of Nature*. London: Taylor and Francis.
- Clayton, J. (2019). *Natural Rivals: John Muir, Gifford Pinchot, and the Creation of America's Public Lands*. Cambridge: Pegasus.

- Deming, A.H. and Savoy, L.E. (2011). *Colors of Nature*. Minneapolis: Milkweed.
- Dittmer, J. (2014). Geopolitical assemblages and complexity. *Progress in Human Geography*, 38(3). 385-401.
- Dorwart, C.E., Moore, R.L., Leung, Y. (2009). Visitors' perceptions of a trail environment and effects on experiences: A model for nature-based recreation experiences. *Leisure Sciences*, 32(1). 35-54.
- Feld, S. & Basso, K. (1996). *Senses of Place*. School of American Research Press.
- Finney, C. (2014). *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors*. Chapel Hill: The University of North Carolina Press.
- Fishel, S.R. (2019). Of other movements: nonhuman mobility in the Anthropocene. *Mobilities*, 14(3). 351-362.
- Flemsaeter, F., Setten, G., and Brown, K.M. (2015). Morality, mobility and citizenship: legitimizing mobile subjectivities in a contested outdoors. *Geoforum*, 64, 342-350.
- Frumkin, H. The health of places, the wealth of evidence in Barlett, P.F. (2005). *Urban place: reconnecting with the natural world*. Cambridge: the MIT Press.
- Gallagher, M., Kanngieser, A., et al. (2017). Listening geographies: Landscape, affect and geotechnologies. *Progress in Human Geography*, 41(5). 618-637.
- Ghimire, R, Green, G.T., Poudyal, N.C. et al. (2016). Who recreates where: Implications from a national recreation household survey. *Journal of Forestry*, 114(4). 458-465.
- Gibson-Graham, J.K. (2006). *A Postcapitalist Politics*. Minneapolis: The University of Minnesota Press.
- Griffin, A.L. (2001). Feeling it out: the use of haptic visualization for exploratory geographic analysis. *Cartographic Perspectives*, 39(Spring). 12-29.
- Hayes-Conroy, J. and Hayes-Conroy, A. (2010). Visceral Geographies: Mattering, Relating, and Defying. *Geography Compass*, 4/9 (2010). 1273-1283.
- Haraway, D. (2008). *When Species Meet*. Minneapolis: University of Minnesota Press.
- Haraway, D.J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Durham: Duke University Press.
- Hooks, B. (2009). *Belonging: a culture of place*. New York: Routledge.
- Howe, C. (2015). Lifeaboveearth: An introduction. *Cultural Anthropology*, 30(2). 203-209.
- Humberstone, B. (2011). Embodiment and social and environmental action in nature-based sport: spiritual spaces. *Leisure Studies*, 30(4). 495-512.
- Humberstone, B. (2013). Adventurous activities, embodiment and nature: Spiritual, sensual and sustainable? Embodying environmental justice. *Motriz, Rio Claro*, 19(3). 565-571.



- Ingold, T. (2000). *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. New York: Routledge
- Ingold, T. (2011). *Being Alive: Essays on Movement, Knowledge and Description*. New York: Routledge.
- Ketcham, C. (2019). *This Land: How Cowboys, Capitalism, and Corruption are Ruining the American West*. New York City: Viking Press.
- Kil, N., Holland, S.M., Stein, T.V, and Ko, Y.J. (2011). Place attachment as a mediator of the relationship between nature-based recreation benefits and future visit intentions. *Journal of Sustainable Tourism*, 20(4). 603-626.
- Kohn, E. (2013). *How Forests Think: Toward and Anthropology Beyond the Human*. Berkeley: University of California Press.
- Kosek, J. (2006). *Understories: The Political Life of Forests in Northern New Mexico*. Durham: Duke University Press.
- Kruger, L.E. (2006). Recreation as a path for place making and community building. *Leisure/Loisir*, 30(2). 383-392.
- Lee, T.H. (2011). How recreation involvement, place attachment and conservation commitment affect environmentally responsible behavior. *Journal of Sustainable Tourism*, 19(7). 895-915.
- Longhurst, R. and Ho E. (2008). Using ‘the body’ as an “instrument of research’: kimch’I and pavlova. *Area*, 40(2). 208-217.
- Low, S.M. and Lawrence-Zuniga, D. Editors (2003). *The anthropology of space and place: locating culture*. Malden: Blackwell Publishing.
- Lowenhaupt-Tsing, A. (2005). *Friction: An ethnography of global connection*. Princeton: Princeton University Press.
- Lowenhaupt Tsing, A. (2015). *The Mushroom at the End of the World: on the possibility of life in capitalist ruins*. Princeton: Princeton University Press
- Massey, D. (2005). *For Space*. Los Angeles: Sage.
- Massey, D. (1994). *Space, Place, and Gender*. Minneapolis: University of Minnesota Press.
- Mills, J.E. (2014). *The Adventure Gap: Changing the Face of the Outdoors*. Seattle: Mountaineers Books.
- Minor, J. and Boyce, G.A. (2018). Smokey Bear and the pyropolitics of United States forest governance. *Political Geography*, 62(2018-1). 79-93.
- Modlik, M. and Johnston, L. (2017). Huhu grubs, bull semen shots and koki: visceral geographies of regional food festivals in Aotearoa. *New Zealand Geographer*, 2017(73). 25-34.

- Monz, C.A., Gutzwiller, K.J., Hausner, V.H. et al. (2021). Understanding and managing the interactions of impacts from nature-based recreation and climate change. *Ambio*, 50(2021). 631-643.
- Moore, R.L. & Graefe, A.R. (1994). Attachments to recreation settings: The case of rail-trail users. *Leisure Sciences*, 16(1994). 17-31.
- Philips, L. T. (2021). *Humboldt-Toiyabe National Forest Reno/Carson Trailheads*, [map]. Reno, NV: National Geographic Society.
- Paterson, M. (2009). Haptic geographies: Ethnography, haptic knowledges and sensuous dispositions. *Progress in Human Geography*, 33(2009). 766-788.
- Pink, S. (2015). *Doing Sensory ethnography: 2<sup>nd</sup> edition*. Los Angeles: Sage.
- Poe, M.R., LeCompte, J., et al. (2014). Urban foraging and the relational ecologies of belonging. *Social and Cultural Geography*, 15(8). 901-919.
- Raffles, H. (2002). *In Amazonia*. Princeton: Princeton University Press.
- Remacha, C., Perez-Triz, J., Delgado, J.A. (2011). Reducing visitors' group size increases the number of birds during educational activities: Implications for management of nature-based recreation. *Journal of Environmental Management*, 92(6). 1564-1568.
- Rosa, C.D., Collado, S, et al. (2019). Nature-based recreation associated with connectedness to nature and leisure satisfaction among students in Brazil. *Leisure Studies*, 38(5). 682-691.
- Schilar, H, and Keskitalo, E.C.H., (2018). Tourism activity as an expression of place attachment-place perceptions among tourism actors in the Jukkasjaarvi area of northern Sweden. *Scandinavian Journal of Hospitality and Tourism*, 18(1), S42-S59.
- Stinson, J. (2017). Re-creating Wilderness 2.0: Or getting back to work in a virtual nature. *Geoforum*, 79(2019). 174-187.
- Swillens, V., Decuyper, M., Vandenabeele, J., and Vlieghe, J. (2021). Place-sensing through haptic interfaces proposing an alternative to modern sustainability education. *Sustainability*, 13(4204). 4204
- Tempest-Williams, T. (2017). *The hour of land: a personal topography of America's national parks*. New York: Picador.
- Tsing, A. with Swanson, H. et al. (2017). *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.
- Wilkinson, S. and Wilkinson, C. (2020). Place, age and identity. In: *The Routledge Handbook of Place*. Oxfordshire: Routledge.
- Wilson, R.K. (2014). *America's Public Lands: From Yellowstone to Smokey Bear and Beyond*. Boulder: Rowman and Littlefield.

**4. Paper 3: *Participant auto-ethnographic trail journals: representing more-than-humans through embodied experiences of nature-based recreators.***

**Abstract:** Within capitalocentrism, more-than-human (MtH) biological environments are treated as “resource” or “commodity”, instituting socioeconomic practices which consider humans as the only possible actor in human-MtH relations and interactions. These perceptions of MtH carry over into academic scholarship and practice, rendering MtH underrepresented in theory, methodology, and analysis. Human geographers call for innovations in praxis that contribute to better representing and incorporating MtH in diverse research contexts. This paper contributes to this body of literature by demonstrating the value of participant auto-ethnography, a form of critical auto-ethnography that centers the human participant experience with the MtH. Specifically, I focus on the method of participant auto-ethnographic *trail journals*. The *trail journals* which directly account for human-MtH interrelations, include participant written and audio notation, photo-elicitation, and reflection. Trail journals are rooted in Pink’s (2015) *sensory ethnography*; Bell et al.’s (2017) *engaged witnessing*; and Humberstone’s (2011, 2013) *auto-ethnography*. Central to *trail journals*, is researcher absence during the journaling process, making space for real-time recreator self-reporting of their intimate and embodied relations with MtH in these USFS trails. While they were effective in this nature-based research context, *trail journals* are applicable for all research aspiring to glean existing human-MtH relations. Trail journals provide insight into how research can better represent MtH, how expert positionality can and should be afforded to human and MtH participants, and lastly, how researchers might best shape methods and position themselves as embodied researchers in order to get at these human-MtH relations.

## **Introduction:**

Haraway explains that, “Taking themselves to be the only actors, people reduce other organisms to the lived status of being merely raw material or tools.” (Haraway, 2008: 206). These considerations of biological environments as “resource” or “commodity” (Castree, 2014; Braun, 2003, 2006, 2008; Lowenhaupt-Tsing, 2005, 2015; Haraway, 2008, 2016; Hesketh, 2016; Gibson-Graham, 1996, 2006, 2015; Roelvink, 2015; Miller, 2019), instituting socioeconomic practices which consider humans as the primary actor. These perceptions of more-than-human (MtH) carry over into academic scholarship and practice, rendering MtH underrepresented in theory, methodologies, and analysis of research. Scholars within geography have begun to theoretically focus on the more than humans as active co-producers of space, place, and relations (Dittmer, 2014; Allen-Collinson, 2018; Braidotti, 2019; Bingham & Hinchcliffe, 2008; Braun, 2006 & 2008; Bastian et al, 2017; Gallagher et al, 2017; Anderson, 2004; Whatmore, 2006; Forsyth, 2013; Noorani & Brigstocke, 2018). In the realm of methods, human geographers have examined how research can best incorporate and represent MtH (for example, see Bell et al, 2017; Poe et al, 2014; Dowling et al, 2017; Wilkinson et al, 2020; Pitt, 2015; Gibson-Graham & Roelvink, 2009).

This paper contributes to this body of literature on the, “‘how’ of more-than-human research” (Bell et al. 2017: 136), presenting and representing MtH space as “constitutive” instead of just “contextual” (Howe, 2015: 206) in human experiences. Auto-ethnography has been employed by mobilities and nature-based recreation scholars to get at human-nature and human-MtH relations (see Humberstone, 2011 & 2013). In these contexts, auto-ethnography is completed by the researcher. But what of the

participant experience recorded from their own perspective and within their own time frame without intrusion of the researcher?

This paper explores alternatives in auto-ethnography and recording participant self-reflection through *participant auto-ethnographic trail journals* to directly capture human-MtH interrelations. *Participant auto-ethnographic trail journals*, include participant written and audio notation, photo-elicitation (Pink, 2015), and reflection. Participant auto-ethnographic trail journals presented here, were formulated from a marriage of Pink's (2015) *sensory ethnography*; Bell et al.'s (2017) *engaged witnessing*; and Humberstone's (2011, 2013) *auto-ethnography*. Central to *trail journals*, is researcher absence during the journaling process, which allows recreators to experience and represent MtH without outsider interruption, making space for real-time recreator self-reporting of their intimate and embodied relations with MtH in these USFS trails. Participant auto-ethnographic trail journals are practiced here as form of critical auto-ethnography that is completed directly by the human participants and are unmediated by the researcher. Advantages of this approach are the absence of researcher presence, which, in human-MtH relations is important as human participants describe noticing their MtH relations stronger and in more connected ways when they are "away from" other humans.

Perhaps the closest we come as researchers to placing participants center stage in the auto-ethnographic process is what Watson (2009) refers to as participant self-observation, "a form of critical autoethnography" that is able to "illuminate the dark places" that are oft overlooked in traditional (or as Watson describes as the "colonized") research approaches (Watson, 2009: 2). What I propose here is further decolonizing the

research process to place participants directly in the role of expert in auto-ethnographic data collection and “self-reporting” (Stuckey et al, 2014). Essential in this process is the absence of researcher presence, allowing the everyday interpersonal connections between human and MtH to occur “normally” which is integral to most accurately representing human-MtH relations. Trail journals provide insight into how MtH action is perceived, experienced, and reflected on by nature-based recreators<sup>15</sup>, rendering MtH contributions accessible, sense-able, and communicable through human-participant relay. This paper reinforces the importance of providing expert positionality to humans in their relations with MtH in trail places, and how researchers might best shape methods and position themselves as embodied researchers to get at these insights in their diverse research contexts.

This research, generally focused on the more-than-human and more-than-capitalist relations practiced by nature-based recreators within USFS trails in the Humboldt-Toiyabe National Forest, experimented with variations of traditional mixed qualitative fieldwork methods: questionnaire, interview, auto-ethnographic journals, and photo-elicitation with participants in the Humboldt-Toiyabe National Forest. In the following sections, I ground the participant auto-ethnographic trails journals within existing literature on MtH theory and practice, including laying a foundation for the importance of representing the MtH. I then outline challenges to and specifics of existing MtH methods. Lastly, I introduce the specific components of the trail journals as a form

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<sup>15</sup> *Nature-based recreation* stems from leisure, sport and tourism sciences (See Dorwart et al., 2009; Rosa et al., 2019; and Remacha et al., 2011). Similar term, nature-based movement is term employed by Barbara Humberstone (2011, 2013). Nature-based recreators practice outdoor recreation in nature settings where they are in direct intimate contact and connection with the natural elements and surroundings (Humberstone, 2013: 496-497).

of critical auto-ethnography. I then present data detailing the ways that *trail journals* were applied to field research context that explored the visceral, emplaced, and intimate human-MtH relations occurring during nature-based recreation in USFS trails in the Humboldt-Toiyabe National Forest near the Reno/Carson NV areas. In this context, the trail journals methodological package demonstrates the advantages to researcher absence in the field which allows human and MtH participants to practice their “normal” relations during nature-based recreation on the trails.

### **Grounding the Trail Journals:**

#### *Why represent MtH? Laying MtH Foundation:*

This research is inspired by Latour’s sentiment that, “Nonhumans deserve much better than to play indefinitely the rather unworthy, somewhat vulgar role of object on the great stage of nature.” (Latour, 2004: 51). There currently exists a strong push, theoretically and practically, to emphasize MtH alongside human actors in order to most accurately understand lived realities of *all* participants involved in human-MtH interactions. MtH space is “constitutive” not just “contextual” (Howe, 2015: 206) in human experiences. Scholars term, theorize, and define *more-than-human* in varied manners: post-human, non-human, beyond human, other-than-human, etc. (See Barlett, 2005; Bennett, 2001 & 2010; Basso, 1996; Bell et al., 2017; Braun, 2006; Castree, 2012; Fishel, 2019; Haraway, 2008 & 2016; Wilkinson et al, 2020; Howe, 2015; Kohn, 2013; Lowenhaupt-Tsing, 2005 & 2015; Raffles, 2002; Tsing, 2017). These terms connote oppositional relationships between humans and MtH, perpetuating human-centered focus,

which this paper does not promote. “More-than-human” is employed here for its inclusionary connotations- considering humans as part of, not separate from MtH (See Bastian, 2017; Bell et al, 2017; Pitt, 2015). Taking these variations into account, a limited, but not limiting, working definition for *more-than-human* is: any life and non-life, whether existing biological entities or human constructions, in all geographic settings. MtH scholars stress the importance of considering humans and MtH as interconnected, as living and “lively”, and as productive of one another (Bennett, 2010; Braun, 2008; Haraway, 2016; Kohn, 2010; Lowenhaupt-Tsing, 2005, 2015). Methodologies aimed at capturing the co-productive relationship between humans and the MtH are surfacing in a wide variety of fields to critique the anthropocentric norms of research practice that centers humans as the primary actor in human and MtH interchanges.

This ontological distinction between humans and more-than-human is reified in the capitalist mode of production and its variations, such as neoliberalism, that separate humans from their biological environments (natures) for extractive and preservation purposes (See: McCarthy and Prudham, 2003; Bakker in Braun, 2015; Braun, 2008; Bingham and Hinchcliffe, 2008; Haraway, 2008, 2016; Harvey, 2011). Considering MtH biological environments co-producers of place has been a hard sell for Eurocentric cultures produced through and embedded within a in capitalocentric model. Braun explains that, “There is little sense of nature having its *own* productivity outside, beyond, before or beneath neoliberal projects” (Braun, 2015: 5). In direct response and opposition to these ‘society’ vs. ‘environment’ divides, scholars are presenting “non-dualistic paradigms” with MtH at center-stage (Braun, 2008), treating MtH as “constitutive”



instead of just “contextual” (Howe, 2015: 206). MtH scholars stress the interconnections between humans and MtH, as productive of one another (Bennett, 2010; Castree, 2012; Braun, 2006 & 2008; Haraway, 2008 & 2016; Kohn, 2010; Lowenhaupt-Tsing, 2005, 2015). Humans and MtH are fundamentally connected in the “co-constitution” (Gibson-Graham & Roelvink, 2009: 322) of self and place, making MtH natures essential ‘participants’ in research. MtH theorists show that natures<sup>16</sup>, are “inextricably social” and “cannot be reduced to the actions of humans alone.” (Braun, 2006: 644).

*How to represent the MtH? MtH methods in this research:*

MtH research presents unique challenges as well as theoretical and methodological questions. A common critique of MtH methods is that they are, “messy”, or incapable of “speaking for” MtH, as Bell et al (2017) explain:

One challenge of more-than-human research is that you cannot survey kangaroos about their thoughts and actions, or ask an angophora tree to describe how it feels when lace monitors scamper up its trunk after being startled by passing bushwalkers. The ‘how’ of more-than-human research is not straightforward and is often not described in detail, or is otherwise rendered a little strange, improper, messy or experimental (Bell et al, 2017: 136).

MtH theorists and practitioners recognize the very real constraints and challenges in MtH centered research connected to method design and implementation and questions of

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<sup>16</sup> While acknowledging the complicated political and historical contexts associated with the socioeconomic creation and use of the term, *nature* (Bingham and Hinchcliffe, 2008; McCarthy & Prudham, 2004; Braun, 2006 & 2008; Lorimer, 2012; Bakker, 2010; Brown, 2014), I use the term, *nature/s*, to refer to the USFS biological environments that do not contain human created urban infrastructures and are inclusive of humans as but one of many relational actors co-producing these spaces with the other more than human (MtH) actors in these spaces (Gibson-Graham et al, 2016; Stinson, 2008; Howe & Morris, 2009). This paper does not attempt to present these “wild” spaces as unpeopled or separate from human influence, it is the human engagement within these spaces via nature-based movement and recreation that allows for this investigation into the MtC valuations of these lands.

representation as listed by Bell et al above (2017). The point must be made, however, that many of these challenges are standard components of *any* form of field research with participants, whether human or MtH. While it is important to acknowledge possible barriers to research methods in particular contexts, it is also necessary to innovate methods to incorporate all actors who make up the research contexts, which include MtH in the “co-fabrication” of research (Bell et al, 2017: 138) so that we may take seriously the, “agency, specificity and liveliness of the nonhuman materialities of environments.” (Brown, 2016: 309).

This research takes up Gibson-Graham and Roelvink’s (2009: 320) calls for “experimental researchers” to contribute to the growing body of research focused on, “the being-in-common of humans and the more-than-human world... a process of learning, involving a collective of human and more-than-human actants – a process of co-transformation that re/constitutes the world”. Human geographers, cultural anthropologists, recreation and sport scholars, and diverse economies scholars are experimenting with how to best observe, interact with, and represent MtH as co-producers. In this paper, I bring three scholars and concepts into dialogue with one another, to explain the value and utility of *participant autoethnographic trail journals*: Pink’s (2015) *sensory ethnography*; Bell et al.’s (2017) *engaged witnessing*; and Humberstone’s (2011, 2013) *auto-ethnography*.

Pink’s, *sensory ethnography* (2015), presents methods that get at MtH by considering senses and embodied experiences as key points of “contact” between human and MtH. It is these sensory engagements with MtH place that are key means of relating with and being in contact with the MtH. *Sensory ethnography* is emplaced ethnography,

“accounting for the relationships between bodies, minds, and the materiality and sensoriality of the environment” of participants and researchers (Pink, 2015: 28, *emplacement* originally from Howes, 2005b in Pink, 2015). For Pink, sensing and mobile embodied practices are paramount for noting the *relations* between humans and their biological environments (2015: 27).

Bell et al.'s (2017), *engaged witnessing*, follows Pink's lead in making the case for the ways in which as researchers, we are embedded within and are part of our research, as embodied and sensing beings. Engaged witnessing is research method presented by Bell et al (2017), which involves the researcher placing themselves as closely as possible in the MtH participant movements and actions, moving at their pace and attempting to see, feel, and experience the world from their geographical perspective. According to Bell et al, *witnessing*, “has to be a sensory endeavor.” (2017: 137). This method emerged from Bell's fieldwork experimentations participating with and representing MtH participant actors in the Ku-ring-gai Chase National Park, Australia in which she made herself “vulnerable to being moved” by the animal actors, allowing them to “set the pace of the research” and practicing moving like and with them (2017: 139). Bell et al. argue that “practices of engaged witnessing allow for an appreciation and awareness of the transformational and affective nature of more-than-human research so that these agencies are given more opportunity to shape the performance of research.” (Bell et al., 2017: 142). This requires that researcher “slow down”, “take more time and develop a ‘different sensibility’.” of “deep” sensing (2017: 141). Bell et al explain that *engaged witnessing*, “takes into consideration the affective nature of encountering non-human actors and involves a concerted attempt to be open to being changed, moved or

shifted through paying close attention and becoming immersed in more-than-human engagements.” (Bell et al, 2017: 137-138). *Engaged witnessing* requires the researcher to experience their senses deeply during research and to be open to ‘being affected’ (Humberstone, 2013) by all participants, stressing the ways in which all human and MtH “partners” are co-producing via their mutual “witnessing”, it is an all-way process of reciprocal exchanges. By allowing the researcher’s human body to be more sensorially attuned and affected, that body is able to be more in touch with and aware of the MtH (Bell et al, 2017: 138). *Engaged witnessing* is means of accessing MtH within fieldwork via the sensory experiences of participants and researcher as, “researchers can discover the unseeable through deeply immersing themselves in particular spaces and becoming attuned to the variety of performances that are occurring there” (Bell et al, 2017: 137).

And lastly, Humberstone’s, *auto-ethnography* (2011, 2013) brings together the direct mobile and embodied involvement of the researcher, sensory and affective experiences, connection to MtH components of field experiences, and nature-based recreation. Auto-ethnography, as practiced by Humberstone, is method where the researcher directly logs their own personal experiences with nature-based movement and their relations with the MtH biological environment. This method allows the researcher to recognize their own positionalities and embodied experiences and how these may impact research contexts. Auto-ethnography has become means of viscerally representing “embodied stories” of nature-based leisure, sport, and recreation through utilizing “all the senses” (Humberstone, 2013: 499). Auto-ethnography brings together the self (*auto*), culture (*ethnos*), and the research process itself (*graphy*). Humberstone explains that, “auto-ethnography provides for complex dynamic relations with the life-world to be

explored such that ‘other’ and relations with others in context move in and out of the centre of the research as the self moves fluidly from centre to periphery and back.” (Humberstone, 2013: 499). This allows embodied narratives of place and relations with human and MtH participants to be described holistically and viscerally: bringing together body, mind, emotion. Humberstone describes this as “the sentient nature of embodiment” that makes possible data analysis focused on all of the senses, their connections to emotions, and how these are elicited via nature-based mobilities and recreation (Humberstone, 2013: 495). Auto-ethnography allows researchers to investigate “how the body comes to ‘know’” through sensory, embodied, and engaged MtH experiences in nature-based recreation settings.

Together, the works of Pink, Bell et al, and Humberstone build stable base for the, *participant auto-ethnographic trail journals*, proposed here. While this research employs the methods of Pink, Bell et al. and Humberstone as base for adaptation and innovation in my research, it diverges from these in one key aspect: it stresses the value of researcher absence during participant practices in the field. Unlike Pink, Bell et al, and Humberstone, who stress researcher presence and immersion, I stress that when working with MtH and human co-productions, researcher presence is disadvantageous for representative experiential data reported by human participants. Humberstone explains that, “being there in nature and the corporeal, sensual experience of nature-based sport is central to how we make sense of adventurous activities and our relations with the human and non-human worlds in which these practices in nature take place.” (Humberstone, 2013: 567). As the nature-based recreators are the “experts” in their human-MtH relations, they are in best position to most accurately relay and relate their experiences.

Therefore, instead of being reported by the researcher, the intimate human-nature relationships found in nature-based recreation are reported by the nature-based recreator themselves, giving them expert positionality.

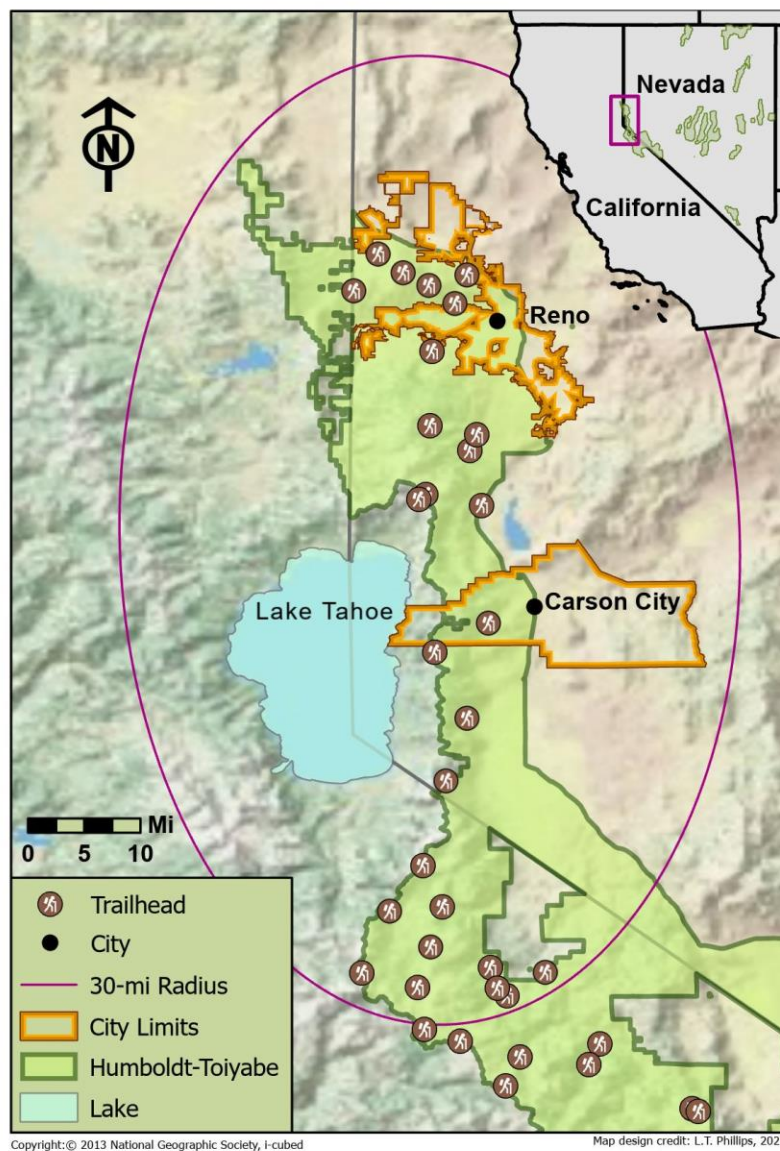
### **The Humboldt-Toiyabe Trails:**

The *participant autoethnographic trail journals* were employed during doctoral research spanning from June 2019 through February 2021, exploring the human-MtH relations co-produced during nature-based movement within the Humboldt-Toiyabe National Forest (See figure 3.1) trail places. USFS trails offer unique recreational opportunities, predominantly nature-based recreation. Nature-based recreation is defined by Humberstone (2011 & 2013) as: recreation, movement, and sport practiced in natural biological environment settings in which practitioners, “engage with nature” differently than non-nature settings as recreators are in continuous contact with, affecting, and being affected by the MtH actors who also occupy these trail places. Nature-based recreation, due to its intimacy with the MtH biological environment, offers participants access to not just MtH, but MtH natures, the MtH that is considered “natural”, without sense-able human-made, urban constructions. These trail sites then, are unique sites for researching with/in MtH natures.

The COVID-19 pandemic significantly shaped the methods deployed in this research. The pandemic severely limited researcher-human participant contact and options for forms of participant-observation fieldwork and various mobile methods, as traditionally defined. It did, however, open a unique opportunity to discover

Figure 3.1

Map of study area in the Humboldt-Toiyabe National Forest



**Note:** This map displays one portion of the Humboldt-Toiyabe National Forest. All USFS land in Nevada is now grouped under the title, Humboldt-Toiyabe National Forest. Marked trail heads are listed here, however, many unmarked trailheads and trail access points exist throughout this region of the Humboldt-Toiyabe National Forest. Map created by Lauren Phillips (2021).

the advantages of researcher absence in the field when studying human-MtH relations.

Innovations and experimentations were employed to traditional qualitative methods to

best garner data reflective of actual lived experiences of human experiences with the MtH. The field portion of this research spanned June-September 2019 (Initial survey/questionnaire period yielding 95 survey/questionnaire participants) and September 2020-February 2021 (deep data collection from 14 core participants as discussed below). The qualitative data presented here was collected from 14 nature-based participants while recreating on multi-use trails within the Humboldt-Toiyabe National Forest within 30-mile radius of the Reno/Carson NV areas. Human participants are residents of the Reno and Carson areas and report accessing these USFS trails regularly, from three to seven days per week via multiple modes of movement (hiking, walking, trail running, mountain biking, snowshoeing, skiing) with age ranges from 27-78. MtH participants are members of a variety of climate zones, spanning elevations from 4,500 feet in the Reno and Carson basins to nearly 11,000 feet in the peaks of the Sierra Nevada mountains. The trails are composed of decomposed granite in the higher elevations and volcanic clay in the lower foothills. In addition to the trail journal component, participants also completed an initial questionnaire and telephone interview. The participant auto-ethnographic trail journals activity included written and audio notation, photo-elicitation, and reflective closing Zoom interview. Zoom format for the closing interviews was selected for the increased sensory and embodied data that accompanies participant's verbal answers, which more closely mimics in-person interviews than telephone (ie. facial expressions, body movements and gestures, etc.). MtH participants were not formally interviewed for this investigation, however, their experiences and agency are drawn from the data provided by the human participants. This is expanded within the data section of this investigation. Questions posed for each of these mixed methods were placed based on academic



research into: MtH theory and methodologies, sensory/embodied/haptic research, visceral geographies, mobile methodologies, auto-ethnography, nature-based movement, and US public lands.

### **The Participant Auto-Ethnographic Trail Journals:**

Participant auto-ethnographic trail journals include written and audio notation, photo-elicitation, and reflection. Each aspect of the trail journals, stress the importance of the separation of researcher from human participants during the autoethnographic journaling phase of research. The written and audio notated trail journals are a form of autoethnography where participants complete the autoethnography instead of the researcher. This allows participants to cognitively and physically bring together their “embodiment, the senses, and physical practice” of nature-based recreation (Humberstone, 2013: 496). The participant auto-ethnographic trail journals allow the participants space away from the presence of other humans (ie. the researcher) to have a “normal” experience in their nature-based recreation places while still annotating their embodied, emplaced, and MtH experiences in real time. This poses advantage over traditional participant observation fieldwork in that researcher presence often impacts participants and their experiences. It employs the embodied and sensorial assets of autoethnography to facilitate intimate annotation of participant experiences.

Within the written and audio notated trail journals, human participants included photo-elicitation (Pink, 2015), giving them the opportunity to employ the “provocative power of images” to “reflect” on their MtH trail experiences (Pitt, 2014: 52). Photo-

elicitation is effective means of accessing and demonstrating MtH participation within the photo itself as well as encouraging those viewing the photograph to engage with all available senses to “attend to” and “witness” MtH involvement (Pitt, 2014: 52). Pink explains how “photo-elicitation” is useful as sensory method as it offers the participants a non-verbal means of re-imagining and sharing their “emplaced, sensory, and emotional experiences and ways of knowing” (Pink, 2015: 90). In photo-elicitation, participants take a photograph in “real time” on the trail and then verbally reflect on the photograph within their written trail journal after the trail experience. Human participants photograph what stands out to them in their trail experience and then are able to describe this in their journals, shedding light on MtH relations, presence, and engagement. It offers extra sensory means of sharing how they sensorially relate with the MtH.

The participant auto-ethnographic trail journaling process also involved reflection, reflection on the part of the human participants *and* the researcher. Here again, researcher absence from participants during practice is necessary. Human participants report the autoethnographic trail journals as reflection spaces for their MtH trail experiences. They also encourage the researcher to be more receptive to the diverse ways that human participants are perceiving, experiencing, and communicating with MtH. While analyzing synchronous and asynchronous participant data, researchers can asynchronously practice participant body movements and experiences in the very places that the participants are experiencing them. They can “try on” participant relations with MtH and become sensorially embedded and affected by the trail places, experiencing them as the participants do, and coming to know the MtH biological environments through the embodied and sensory experiences of the participants. These reflections aid

in most accurate and intimate portrayal of human and MtH participant experiences in the field. Within the participant auto-ethnographic trail journals, participants shared their MtH relation data via three main forms: written and audio notation, photo-elicitation, and reflection.

*Written and Audio Notation:*

For the participant auto-ethnographic journals component portion of field research, participants were given an introductory page with loose guidelines to follow, including several prompts and a request for at least one photograph. While prompts were provided, participants ultimately decided how and what they wanted to share in the journals. Some chose to record audio clips; others written entries. Prompts addressed: valuation on the trail (ie. “What do you feel you get AND give from your time on trails today?”; “What is of value to you on the trail and in your trail experience? How do you think about the value of this trail space for you?”), how nature is experiencing them on the trails (ie. “How do you imagine the physical environment/nature is experiencing YOU while you are on the trail?”), impact of physical contact with the trail (ie. “How does physical contact with the trail/ environment around the trail impact your trail experience physically and mentally?”), and sensory experiences on the trail (ie. “What do you sense while on the trail? What senses do you notice you are using and what do you pick up from them?”). Inclusion of request for photographs within the journals gave participants the opportunity to employ the “provocative power of images” to “reflect” on their MtH trail experiences (Pitt, 2014: 52). Some participants included photographs within their trail journals and others did not. Of those that did, some directly engaged with the photograph and described the experience within it, and others attached them at

the end of the journal without directly referencing them. Most participants journaled fluidly keeping prompts in mind without inclusion of above prompts.

The participant autoethnographic journals allowed participants on the trail to cognitively and physically bring together their “embodiment, the senses, and physical practice” of nature-based recreation (Humberstone, 2013: 496). Participants opted when to complete their trail journals. Some were completed on trail, in particular the audio recordings- which provided extra-sensory components alongside the verbal descriptions of the recreator such as wind and weather, effort level of recreator, sound of the trail texture, etc. The trail journals were digitally typed, voice recorded, and photo recorded. They provided opportunity for participants to reflect in their own timeline on their experiences with mobilities with/in the USFS trails. Written and audio notated journals elicited much representation of MtH activity. This is evidenced below by participants use of action verbs and descriptors for MtH that allows them to relate to, empathize, and connect with the lived experience of the MtH, and via direct experiences they are having with MtH.

Human participants reference MtH actors in their journals via action verbs and descriptors: “rustling of the aspen leaves” (Dorothea, trail journals, 10/12/2020); “the trails are thirsty.” (Artemisia, trail journals, 10/6/2020); “Nature has accepted me. I hope” (Oscar, trail journals, 2/15/2019); “the stream flowing almost noiselessly now” (Dorothea, trail journals, 10/17/2020); “Our Forest Service lands provide us this gift each time we are on them.” (John, trail journals, 11/4/2020); “I always wonder how the environment sees me as I pass through...mostly I wonder what little and big animals are watching me as I pass and wondering what the heck I am doing.” (Els, trail journals,

12/21/2020). Use of action verbs includes feelings of empathy and intimate connections with the MtH:

I was moving well, and the trail seemed to feel like it was in the last vestiges of a busy summer and fall. It was dusty and in need of moisture. Thomas Creek is always used, and in some ways the trail felt tired to me. Tired of a lot of use, probably more than in years past, due to the pandemic and people wanting to get out and try new things. Even with this fatigue, the trail was very giving. I saw pine needles on the trail from the wind from last night, and it felt like a smooth carpet to me in spots. The sun rising made things even warmer than usual. (John, trail journals, 11/8/2020)

John, as an avid ultra trail runner, spends large quantities of time within the Humboldt-Toiyabe trails. He talks about MtH trails as alive and agential, as life, capable of action and sympathetic emotive response. In our closing interview, I asked human participants to reflect on their journal experience. A common response to this question was that the journals allowed human participants to reflect on their experiences while recreating in natures and to closely examine their relationships with the natures there.

Trail journals proved fertile space for human participants to highlight MtH via their connections with the MtH and empathy for MtH during their trail experiences.

Artemisia, avid mountain biker in the USFS trails shares her worries of her impact on the MtH through her recreation. She recognizes her direct impact on the MtH and how the “land” will be impacted by her practice:

I was so hyper ware of the dryness and was sorry for the land and all of the West that is so starved for moisture. When you ride through a muddy trail you feel destructive, like you are scarring the land. When you ride through a dry, dusty landscape I don't feel that I am in any way “hurting“ or marring it... I feel like the trails alive because there's vegetation on it, there's plants and occasionally animals, usually snakes... that's part of that whole feeling...if I go off trail I'm crushing plants, I think it would be different if we lived

somewhere else where it rains a lot and things are verdant. In the desert... plant life is precious its hearty but it's not like its super resilient so when you run over something its done for the season probably... I'm certainly aware of all the living things that are around me on the trail. (Artemisia, trail journals, 10/14/2020).

Artemisia's experiences empathizing with MtH is excellent example of the ways that nature-based recreators consider trails and the biological environment to be alive, feeling, experiencing, and active in their engagements with one another. Within the closing Zoom interviews, I learned that participants more acutely identified and verbalized their observations and feelings regarding their MtH within their journals. They explained that the journals activity allowed them to practice their recreation on the trail without interruption since the majority of the journal entries were completed post-trail activity. Having prior knowledge of what the journal prompts were also encouraged the human participants to be more aware of their experiences and relations with MtH while on the trails.

In the written and audio notation component of trail journals, participants also describe their direct encounters with MtH. Trail journals, due to the format, allow participants not only to reflect on a trail experience that they just completed, but also on past experiences through accessing their imaginaries. Many participants mentioned in our closing interviews that the practice of completing the journals allowed them to recollect other past trail experiences in which they were having direct relations with MtH natures. These direct interactions with MtH are visceral and sensory based and demonstrate direct relations with MtH actors impacting human participant trail experiences. These also demonstrate the ways that sensory and embodied actions are engaged with in trails for communication between human and MtH. Gusher provided an example of this:

I heard something that reminded me of a camper pounding in tent stakes. I made noise trying to let who or whatever it was know that I'm coming. Then, I notice a large cinnamon-colored black bear close to me, just 10 yards uphill. This looked much more like a hungry bear than a scared bear scenario. The bear was busy, probably digging grubs out of a dead tree. I did not want turn my back to the bear. So, I shouted go away bear. He ran away. I hear the bear again; so, I start making lots of noise. The bear kept getting louder and louder because I was getting closer and closer. Then, dead silence. I remember hearing the bear run away earlier. This time, I did not hear the bear run away. Did he just walk away this time? Is he just sitting there waiting for me to pass? Am I being stalked by a hungry bear? (Gusher, trail journals, 11/3/2020)

Gusher's experience relays the ways that human and MtH participants are interacting within trail places. Through use of storytelling in his journal, Gusher is able to transmit his own unique experiences with MtH action. He describes the ways that he and the bear impact one another via movement, sound, and trail knowledge. Many participants describe these direct, whether purposeful or not, exchanges with MtH actors while recreating in the trail places. Dorothea describes her intimate and sensory exchanges with trees in her trail journal:

I think the trees can feel our presence. At one point we stopped by an especially large red fir. I'd mentioned a chi kung practice of exchanging chi with a conifer, so we did this for a few minutes. I think the tree can sense this, as it is a mutually beneficial exchange. (Dorothea, trail journals, 10/6/2020)

Dorothea's journal excerpt demonstrates the very purposeful ways in which human participants actively engage with MtH and consider MtH to be participatory beings. She represents the trees as lively and active participants in her trail experience. Both Gusher's and Dorothea's journals are representative of participant journals that represent MtH as active participants in experience and relations.

*Photo-Elicitation:*

Gusher employed photo-elicitation often throughout his journal entries. Here, he outlines his experience snowshoeing in the Humboldt-Toiyabe trails and the human-MtH communities and connections that were large part of that excursion:

I got up to the peak and then headed south above the TRT. Wonderful views. Sunny. Turned around about 1:30 PM to head back. Noticed a daddy long legs spider crossing my tracks. ... Really cool. Noticed a number of animal tracks, some of them surprisingly large. The only ones I could identify were the usual rabbit tracks.

Back down on Chickadee Ridge, I encounter a woman feeding a big and fat grouse. See the picture below. What a surprise. Every time I've encountered a grouse, they fly away in a hurry. It turned out that she was up there back country skiing with her husband of 8 years, and they were renewing their vows. The couple was accompanied by a photographer and the guy who was to conduct the ceremony...had fun observing a bride feeding already compromised wildlife.

**Figure 3.2**

*Photo-elicitation, Gusher, trail journals, 12/5/2020*





The groom patiently watches the bride feed the greedy bird.

Wedding photographer hopefully taking better pictures than I did.

Off camera to the left is the guy who will do the ceremony.

A fat grouse eating out of the bride's hand. Note the bulging bag of seed in her right hand.

“A young couple from South Lake Tahoe set to renew their vows on Chickadee Ridge. Slight delay after the bride was “stalked” by a fat grouse. She whipped out a bag of seed and started feeding the bird.” (Gusher, trail journals, 12/5/2020)

**Note:** Example of trail journal with photo-elicitation. Caption provided by participant within the trail journals.

Here, Gusher employs photo-elicitation (Pink, 2015), combining the use of visual and written mediums to share the experience holistically. This also encourages the “reader” to more sensorially experience his journal description and trail experience. He is able to more completely communicate the embodied, visceral, and “real time” experience he is having with the human and MtH in this trail day. Actors he verbally describes in this experience are, “a daddy long leg”, the “fat grouse”, “the bride”, “the groom”, the “wedding photographer”, and “the guy who will do the ceremony”. He verbally

references other animal actors via their tracks that he comes across, from which he is able to imagine their path/actions.

Gusher's combination of photograph and written description in his journal are strong representation of the ways in which MtH is experienced in the field for human participants, and the ways that verbal and visual communication invites the researcher and "reader"/"seer" of these data to engage sensorially in order to "experience" the human-MtH interrelations as well. Participants employed photo-elicitation in their journals to complement their written journal entries and to share their sentiments in a varied format. Many times, the photographs allowed the human participants to capture aspects of their trail relations that they are not able to put into words.

*Reflection:*

Participant reflection is an essential part of the participant auto-ethnographic process and it invites the researcher into dialogue with the participant. Following the journaling period, I conducted a closing Zoom interview with each participant. This proved to be a productive opportunity for participants to share the experience of auto-ethnography and, in particular, the experience of reflection on their relationship with the MtH world. This was a part of the process I could witness that gave me real time insight not the unique visceral experiences of participant-MtH interactions. This allows me as researcher to be more receptive to the diverse ways that human participants are perceiving, experiencing, and communicating with MtH. During this closing interview, as part of reflections, some participants opted to show me one or more of their trail journal

photographs. Through this, they were able to again engage with the sensory and place-based memory of nature-based movement with the MtH in the photograph and to describe it in real time. According to Pink, these photos allow the researcher to “create empathetic connections to the experiences of research participants” while allowing participants the space to verbally describe the photo and the memories tied to it (Pink, 2015: 90). While many participants briefly showed their photographs and mentioned where they were from, some dove into the memory and their ties to MtH within that particular experience, even keeping the photography up for the entire 1 hour Zoom interview and referencing it throughout.

Some participants reflected more verbally as opposed to using the photograph as prompt for reflection. John, when reflecting on his journaling experience in our closing Zoom interview, shares the ways that he communicates with MtH co-participants within the trail places. He describes MtH action in this context as “communication” and “social element” to his trail time:

there have been times where...I'm out there on the trail and you see a small animal or something and [say], 'heyyy'! It's like, 'ohhh mr, squirrel!' ... [laughs] ... I was out and I was looking around a bit and I started speaking out loud about it...describing what I was seeing to myself and ... [laughs] so there was yeah this kind of social element, ... I wasn't expecting what I was seeing to speak back to me but I think there was a kind of communication going on where I was kind of expressing out loud what I was seeing. And as I've gotten older, I'm not afraid to do that. You know when I was younger, I probably would have held that in and had a quiet conversation with myself about it. (John, closing Zoom interview, 1/15/2021).

John shares the ways that his nature-based movement allows him these MtH encounters and relations. Dorothea also reflects on the encounters of MtH interactions from her

journal entries. Within the closing interview, Dorothea reflected directly on her trail journal entry discussing practicing chi gong with the trees listed above. In the interview reflection, she went into more detail expanding on that process of these human-MtH relations:

I practiced chi gong quite a bit I studied with a master in san Francisco for years and one thing she did was teach us to do this exchange of chi with trees...you start off bringing its chi towards you and then you push out and push your chi towards it and you go like this [hands held out in front of her together, moving away from body] and you can feel... some kinda energy thing... and the last movement you're supposed to ...put its chi towards you cuz you don't want to end up giving yours all to the tree. And you don't do it with a dead or a sick tree, you do it with a healthy one. And pines conifers, firs, work better than deciduous. So I do that sometimes, actually. Ill stop and do that if I see a particularly nice tree...I think, the trees, well to me they're live beings and all that, and its just incredible, they stand there and they don't move but they, they've been there for so many decades and they've dealt with the wind and all this, I don't know, they're just amazing...kinda alive and kinda dancing...especially the ones around here, the junipers the white bark pine the mountain hemlock the red firs, well if you see a sugar pine that's amazing... I relate a lot to the trees ...I feel quite a lot of communion with the trees. ... trees just have such a presence...I think its miraculous, they're just standing there... just getting energy from the sun and turning it into food. ...I mean they just sit there and the sun comes and the sun is such a presence, especially in the winter. If I see the sun in the morning I'm happy, if its gloomy I'm like ughhh [slouches over gloomy face]...but the sun its like ding! [sits really erect with bright face]. So, the tree uses that sun and of course water and whatever soil stuff and micros whatever rhizome business...they're just amazing...I do feel something, certain trees, I kind of befriend...I would just go up and say hi. (Dorothea, closing Zoom interview, 1/5/2021)

Dorothea uses action verbs to describe the actions that she, the MtH trees, and the MtH sun are practicing together. Dorothea's reflection on her trail journal entry afforded me more insight into her experience and relationships with MtH. Reflections are essential components of the trail journal package as they allow the human participant to directly

relay to the researcher their experience and expound upon these while the researcher, via zoom or in person, is able to actually see their emotional response to these MtH relations. This aids in the researcher's ability to take stock of the true connections and embodied ways in which participants are experiencing and communicating MtH acation within their trail time.

Throughout the journaling and post journaling period of the research, it is essential for the researcher to reflect on participant data and practices in embodied and sensory ways. As this research was completed during the COVID-19 pandemic, reflecting via asynchronous apprentice allowed me to asynchronously experience participant descriptions of their MtH interactions in real time and space. As researcher, this facilitated me in directly experiencing the *embodied capital* and *embodied multiple subjectivities* (Humberstone, 2013) reported by participants that came about during their mobilities with their MtH co-participants in the USFS trail places. Via this method, I am also able to practice Bell et al.'s (2017) *engaged witnessing* asynchronously, allowing me to experience the "affective nature of encountering non-human actors" (Bell et al, 2015: 137) via my own mobile and embodied experiences under the tutorial of the participant's own MtH relational and embodied experiences in these same trail places. After reading participant data contributions, I intentionally visited the trail sites mentioned by participants, where I was able to attempt to engage in the mobilities and MtH interrelations that they were practicing in these places. I was also able to engage in mobile sensory-based exchanges with MtH actors along the trail like those relayed by Dorothea in her chi gong exchange practices above. Through this practice I could relate to Dorothea's embodied, mobile, sensory, and MtH experiences within the trail. I

engaged different senses with the trees along the trail, focusing on energy, as directed by Dorothea, and it gave me a new connection point and new set of relations to understand the ways that Dorothea is identifying MtH actors on the trail. Completing this “apprenticeship” asynchronously allowed me to connect directly with the MtH, just as Dorothea had done.

Together, the three components of the trail journals of: written and audio notation, photo-elicitation, and reflection, encourage methods, participants, and researcher to be receptive to the myriad ways in which participants are experiencing and reporting MtH co-participants. Via these sensory-based, visceral, mobile, and nature-based methods, participants were able to contribute rich data regarding their relations with MtH actors. This data shows that novel methods in concert with existing methods strengthen our ability as researchers and participants to be emplaced “witness” (Bell et al, 2017), to recognize the importance of sensory experiences in our ability to be “open” to MtH action, and to reframe our methods and capacities to be affected- to be fully embracing and aware of various ways that MtH action and interaction is experienced by human participants. Throughout these components, researcher absence from participant practice is foundational to fruitful and representative participant contributions.

### **Conclusions:**

This paper highlights the value of participant auto-ethnography in the study of human-MtH interactions through the use of trail journals as a means of noticing and representing MtH in research practice and analysis. It argues that these techniques are

effective in examining human-MtH relations due to researcher absence during human participant practices. Participant auto-ethnographic trail journals are composed of audio and written notation, photo-elicitation, and reflection. The data shared here points to the specific ways that each component of these trail journals contributes to holistic and sensory understandings of the human-MtH relations occurring during nature-based recreation on USFS trails. Methods introduced here are low cost and also may increase data contributions from participants as they afford participants the ability to complete their contributions in their own time away from researcher presence. In nature-based movement, participants place a premium on the “solitude” of their experiences, which presence of the researcher would interrupt “connection” with MtH. Therefore, these synchronous and asynchronous methods may better highlight nature-based MtH relations, which, in turn, has greater chance of most accurately representing MtH. These methods also explore possibilities of how researchers may more wholly open themselves to participant reported MtH experiences. These methods then, can be considered useful not only for MtH action/relations, nature-based recreation/mobilities, and sensory/visceral experiences, but also for any context in which presence of the researcher would inhibit participant’s true embodied experience in their practices. While this study focuses on MtH within nature-based settings, the participant auto-ethnographic trail journals are applicable in any context where human participants (and/or the researcher) are in intimate contact with the MtH elements they wish to represent. This research in particular, contributes to broadening considerations of who, what, and why is considered “alive” and influential. Especially in this specific instance, where US public lands are being structurally valued in mainly monetary terms, it becomes essential to strategize methods

that represent all of the “life”, actors, and relations occurring in these spaces to showcase the other-than-materially extractive considerations of these spaces. This research also encourages researchers to explore methodological innovations that may best help them get at and represent their human and MtH participants.

This research is evidence that humans do indeed find ways to connect with and notice MtH natures, and that MtH actors are essential in these processes- following Braun’s approach in, “...placing non-humans in our stories from the start, as part of the collectivities within which human life is constituted...” (Braun, 2008: 67). These innovations and experiments in auto-ethnographic, MtH, mobile, nature-based, and visceral methods provide unique opportunities for human participants to share their embodied experiences with MtH relations and action. There has been tendency in more “traditional” qualitative fieldwork to steer away from MtH methods due to the difficulties in attempting to “speak for” the MtH or the “messiness” involved. However, this research follows other MtH researchers in, “finding ways to decentre human control of the research processes and embrac[e] the messy-ness of entangled worlds” (Dowling et al, 2017: 825). What if instead of trying to “speak for”, we instead translate and represent MtH through the intimate human-MtH experiences and interactions reported directly by the nature-based recreators? Why wouldn’t we shift the “expert” positionality to the human and MtH participants? By shifting research strategies and embodied expectations, it is possible to think differently about MtH action and research contexts, especially, as demonstrated here, in the contexts of nature-based recreators. Instead of shying away from potentially messy research, it is time to, “accept that mess is a constituent of research (Law, 2004).” (Bell et al, 2017: 142). This paper speaks to Bell et al’s sentiment



that there is much room to contribute to the methodological approach employed to engage with MtH actors and “co-production” (Bell et al, 2017). This research encourages researchers and participants to move past “show and tell” towards a show/tell/do/feel that is encouraged by visceral and sensory MtH and nature-based methods, while simultaneously recognizing the immense advantages of researcher absence for particular methods in this study.

These methods and this research contribute to the growing bodies of theory and practice that aim to represent MtH, so that we may open discourse and practice (Gibson-Graham, 2006; Roelvink: 2015) to take into account all actors and participants, to expand possibilities and voices heard within research, to normalize messy methods, to give MtH greater opportunities to be sensed and represented, and to contribute to demonstrating the “rigor” in the so called, “messy methods”. MtH theorists and researchers argue that MtH approaches require all the senses, require research and researchers to look and act differently, and for researchers, methods, and participants to “listen” in ways other than expecting the MtH to speak. Messy research should not be avoided, it should become focus point as that is particularly where the missing data lies within stories of “naturecultures” (Haraway, 2008). How can we speak to Haraway’s “cultivating response-ability” (Haraway 2016: 34), by being more representative, more inclusive, more engaging with MtH via methods so that they also have representation, so that they, “become part of the performance of worlds, knowledges, and research outputs” (Bell et al, 2017: 137)? In this way, whole pictures are represented as opposed to the human-centric versions that continue to reinforce the divides between human and MtH, when in

reality, “every fiber of our being is interlaced, even complicit, in the webs of processes” of our MtH existence (Haraway, 2016: 35).

## Works Cited:

Allen-Collinson, J. and Leledaki, A. (2015). Sensing the outdoors: a visual and haptic phenomenology of outdoor exercise embodiment. *Leisure Studies*, 34(4). 457-470.

Allen-Collinson, J. (2018). 'Weather work': embodiment and weather learning in a national outdoor exercise programme. *Qualitative Research in Sport, Exercise and Health*, 10(1). 63-74.

Anderson, J. (2004). Talking whilst walking a geographical archaeology of knowledge. *Area*.36(3). 254-261.

Basso, K. (1996). *Wisdom Sits in Places: Landscape and Language among the Western Apache*. Albuquerque: University of New Mexico Press.

Barlett, P. F. (2005). *Urban Place: Reconnecting with the Natural World*. Cambridge: MIT Press.

Bastian, M. (2017). Towards a more-than-human participatory research. In Bastian, M., O. Jones, N. Moore, E. Roe eds. *Participatory Research in More-than-human Worlds*. London: Routledge, 19-37.

Bell, S.J., Instone, L., & Mee, K.J. (2017). Engaged Witnessing: Researching with the more-than-human. *Area*, 28(50). 136-144.

Bennett, J. (2001). *The Enchantment of Modern Life: Attachments, Crossing, and Ethics*. Princeton: Princeton University Press.

Bennett, J. (2010). *Vibrant Matter: a political ecology of things*. Durham: Duke University Press.

Bingham, N. and Hinchcliffe, S. (2008). Reconstituting Natures: Articulating Other Modes of Living Together. *Geoforum*, 39(2008). 83-87.

Braidotti, R. (2019). A theoretical framework for the critical posthumanities. *Theory, Culture, & Society*, 36(6). 31-61.

Braun, B. (2003). 'On the raggedy edge of risk': Articulations of race and nature after biology. In *Race, Nature, and the Politics of Difference*. Durham: Duke University Press.

Braun, B. (2006). Environmental issues: global natures in the space of assemblage. *Progress in Human Geography*, 30(5). 644-654.

Braun, B. (2008). Environmental issues: inventive life. *Progress in Human Geography*, 32(5). 667-679.

Braun, B. (2015). The 2013 Antipode RGS-IBG Lecture: New materialism and neoliberal natures. *Antipode*, 47(1). 1-14.

Brown, K. (2015). Leave only footprints? How traces of movement shape the appropriation of space. *Cultural Geographies*, 22(4). 659-687.

- Brown, K.M. (2016). The haptic pleasures of ground-feel: The role of textured terrain in motivating regular exercise. *Health and Place*, 46(2017). 307-314.
- Castree, N. (2014). *Making Sense of Nature*. New York: Routledge.
- Dowling, R., Lloyd, K., and Suchet-Pearson, S. (2017). Qualitative methods II: 'More-than human' methodologies and/in praxis. *Progress in Human Geography*, 41(6). 823-831.
- Dorwart, C.E., Moore, R.L., Leung, Y. (2009). Visitors' perceptions of a trail environment and effects on experiences: A model for nature-based recreation experiences. *Leisure Sciences*, 32(1). 35-54.
- Dittmer, J. (2014) Geopolitical assemblages and complexity. *Progress in Human Geography*, 38(3), 385-401
- Fishel, S.R. (2019). Of other movements: nonhuman mobility in the Anthropocene. *Mobilities*, 14(3). 351-362.
- Forsyth, I. (2013). The more-than-human geographies of field science. *Geography Compass*, 7(8). 527-539.
- Gallagher, M., Kanngieser, A., et al. (2017). Listening geographies: Landscape, affect and geotechnologies. *Progress in Human Geography*, 41(5). 618-637.
- Gibson-Graham, J.K. (1996). *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K. (2006). *A Postcapitalist Politics*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K. (2015). *Take back the Economy*. Minneapolis: The University of Minnesota Press
- Gibson-Graham, J.K. & Roelvink, G. (2009). An economic ethics for the Anthropocene. *Antipode*, 41(s1). 320-346.
- Haraway, D.J. (2008). *When species meet*. Minneapolis: University of Minnesota Press.
- Haraway, D.J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Durham, Duke University Press.
- Harvey, D. (2011). *Neoliberalism*. Oxford: Oxford University Press.
- Hesketh, C. (2016). The survival of non-capitalism. *Society and Space*. 34(5). 877-894.
- Humberstone, B. (2011). Embodiment and social and environmental action in nature-based sport: spiritual spaces. *Leisure Studies*, 30(4). 495-512.
- Humberstone, B. (2013). Adventurous activities, embodiment and nature: Spiritual, sensual and sustainable? Embodying environmental justice. *Motriz, Rio Claro*, 19(3). 565-571.

- Howe, P.D. (2009). An exploration of the co-productions of performance running bodies and natures within 'running taskscapes'. *Journal of Sport & Social Issues*, 33(3). 308-330.
- Kohn, E. (2013). *How Forests Think: Toward and Anthropology Beyond the Human*. Berkeley: University of California Press.
- Latour, B. (2004). *Politics of Nature: How to Bring the Sciences Into Democracy*. Cambridge: Harvard University Press.
- Lowenhaupt-Tsing, A. (2005). *Friction: An Ethnography of Global Connection*. Princeton: Princeton University Press.
- Lowenhaupt-Tsing, A. (2015). *The Mushroom at the End of the World: On the possibility of life in capitalist ruins*. Princeton: Princeton University Press.
- McCarthy, James and Scott Prudham. (2003). Neoliberal Nature and the Nature of Neoliberalism. *Geoforum*, 35(2003). 275-283.
- Miller, E. (2019) *Reimagining Livelihoods: Life beyond Economy, Society, and Environment*. Minneapolis: The University of Minnesota Press.
- Noorani, T and Brigstocke, J. (2018). *More-Than-Human Participatory Research*. Bristol: University of Bristol.
- Philips, L. T. (2021). *Humboldt-Toiyabe National Forest Reno/Carson Trailheads*, [map]. Reno, NV: National Geographic Society.
- Pink, S. (2015). *Doing Sensory Ethnography: 2<sup>nd</sup> Edition*. Oxford: Sage Publications.
- Pitt, H. (2015). On showing and being shown plants – a guide to methods for more-than-human geography. *Area*, 47(1). 48-55.
- Poe, M.R., LeCompte, J., et al. (2014). Urban foraging and the relational ecologies of belonging. *Social and Cultural Geography*, 15(8). 901-919.
- Raffles, H. (2002). *In Amazonia*. Princeton: Princeton University Press.
- Remacha, C., Perez-Triz, J., Delgado, J.A. (2011). Reducing visitors' group size increases the number of birds during educational activities: Implications for management of nature-based recreation. *Journal of Environmental Management*, 92(6). 1564-1568.
- Roelvink, G., St. Martin, K., and Gibson-Graham, J.K. (2015) *Making Other Worlds Possible: Performing Diverse Economies*. Minneapolis: The University of Minnesota Press.
- Rosa, C.D., Collado, S, et al. (2019). Nature-based recreation associated with connectedness to nature and leisure satisfaction among students in Brazil. *Leisure Studies*, 38(5). 682-691.
- Stuckey, H.L., Kraschnewski, J.L., Miller-Day, M. et al. (2014). "Weighing" Two Qualitative Methods: Self-report interviews and Direct Observation of participant food choices. *Field Methods*, 24(4). 343-361.

Tsing, A., Swanson, H., Gan, E., and Bubandt, N. (2017). *Arts of Living on a Damaged Planet*. Minneapolis: The University of Minnesota Press.

Watson, C. (2009). Micropolitics of desire: participant self observation, critical autoethnography and the (re)turn to the baroque. *Education in the North*, 17(1). <https://doi.org/10.26203/dphc-b317>

Whatmore, S. (2006). Materialist returns: practicing cultural geography in and for a more-than-human world. *Cultural Geographies*, 13(2006). 600-609.

Wilkinson, C., Gibbs, L. & Waitt, G. (2020). The questionnaire survey as more-than-human achievement. *Area*, 2020(52). 354-363.

## **5. Conclusions**

### *Summary:*

This research speaks to Hayes-Conroy et al.'s question rooted in visceral geographies, "What methods might be used to trace the environment into the body and the body into the environment?" (2017: 52). These three chapters demonstrate the embodied and practiced human and MtH relations produced through nature-based recreation within USFS trail places in the Humboldt-Toiyabe National Forest. The articles presented here explored various aspects of the existing MtH inter-relations/co-productions reported by nature-based recreators through a focus on *visceral valuations*, *haptic relations*, and MtH methods. What unites these three articles is a shared effort to: rescale our understanding of 'natures' to the site of the sensing and moving human body; open discourse and practice via weak theory approach; engage in possibilities instead of reinforce damaging cartesian divides; explore relational views of place; stress the importance of USFS places as sites of MtC economies, place-making and MtH relations; foreground MtH in human experience and in research; provide evidence against the assumed divisions of human and MtH natures; take seriously recreation as focus of rigorous research; stress the importance of US public lands as essential sites for human and MtH life and livelihood; and to explicitly engage with so-called "messy" methods to better get at and represent human-MtH embodied co-productions.

Together, these chapters bring into question *strong theory* stance that limits openings and possibilities for representing holistic places and experiences. Instead, these three chapters offer evidence of *weak theory* stance in practice, approach that rescales to the site of the body and considers diversity as the norm instead of dualism. At the core,

the weak theory stance adopted by MtC scholars and MtH scholars stems from feminist theory (Gibson-Graham, 2006; Roelvink, 2016; Miller, 2019), and may be applied to all research interested in exploring human experiences, embedded and embodied in holistic and relational places. This approach opens theory and practice to real time and place-supporting innovation that more aptly accounts for all actors and relations occurring in space and time. These chapters demonstrated three possible ways in which weak theory may be applied: MtC valuations, MtH sensing-place, and MtH methods. Each offers theoretical, practical, and analytical tools for future research interested in exploring local experiences with sensory, embodied, nature-based, and mobile encounters between humans and MtH.

First, in, *Visceral Value: nature-based recreation and embodied more-than-capitalist practices within USFS trail places*, confronts capitalocentric assumptions regarding socioeconomic variations and practices, showing the co-existence (Huber, 2018: 148) of myriad practices of valuation alongside, within, and overlapping with capitalisms. The specific valuations that come out of the participant data are related to their visceral experiences and exchanges with the MtH trail places occurring during nature-based recreation, *visceral value*. By rescaling socioeconomic focus to the site of the body, this research directly confronts capitalocentric assumptions that socio-economic subjects are detached from body, MtH natures, and place. Visceral valuations were described and demonstrated by participants within the general categories of: visceral value in physical, mental, and whole self; and visceral value in *being affected*. These data sets demonstrate the ways in which these embodied experiences are valued as more-than-capitalist by nature-based recreators. This research also shows the ways that USFS lands



are valued using different “currency”, depending on the scalar focus through which they are considered. National and corporate valuation of these lands tends towards capitalocentric monetary valuations rooted in extraction and abstraction, most oft determined from afar. The local embodied valuations occurring geographically within USFS trails are represented via MtH and visceral interconnections with MtH natures, treating nature “as partner” (Humberstone, 2013) not product. Recreators are creating and practicing valuations based on the intrinsic and experiential value of these places as opposed to the monetary extractive value placed on these spaces by capitalist desires. In summary, the data from these chapters creates a holistic picture of the MtH co-productions of socioeconomy, place, and self that occur within these USFS trails. Contributing to the fields of alternative and diverse economies, visceral geography, sensory/embodied scholarship, and recreation and nature-based research, this research brings into question capitalocentric norms of translating and interpreting all value into capitalist terms. Instead of following that path of value abstraction here, this research allows the MtC practices of visceral value to stand on their own, co-existing with capitalism, spatially and temporally. This chapter shows ways in which diverse MtC valuations are practiced, directly expanding the broader discourse of what, who, and where is economy.

Continuing with the scalar focus of the site of the body, *Sensing place: nature-based recreation and more-than-human haptic relations within USFS trails*, explores the ways that visceral and embodied practices in USFS nature-based settings host *haptic relations* between humans and MtH natures and argues that nature-based recreators sense place via more-than-human *haptic relations*. Sensing place in this context is rooted in the

haptic exchanges occurring between nature-based recreators and natures within USFS trails. These “productive and transformative connections with other beings” (Fishel, 2019:352) are fodder for intimate and embodied practices of sensing place for recreators. These are defined by this chapter as, *haptic relations*, “the interactions instigated and mediated by sensory and embodied engagements between human and MtH co-producers of place”. Participants relay two core categories of haptic relations within this study: contact-based haptic relations and flow-based haptic relations. This research illuminates the ways that recreation should be considered rigorous focus of study as it is mobile site of place-making. It also emphasizes the importance of USFS lands for these forms of mobile sensing place and haptic relations. Exploring nature-based recreation as co-productions of place based in haptic relations confronts dated stereotypes that place mobilities and embeddedness in place as contradictory to one another. It also highlights these practices of sensing place as distinctly tied to the geographical sites of USFS lands via nature-based recreation. Data within this chapter stresses the intimate connections between mobile place-making, nature-based recreation, emplaced human-nature relations, and the USFS trails. In so doing, it encourages increased focus on the ways that recreation, and in particular nature-based recreation, is powerful means of place-making. This chapter brings attention to the site of the body as visceral contact point with MtH natures and trail places, the body as sensory indicator of the diverse ways in which place can be co-produced and constructed *with* USFS trails, not *on* USFS trails.

In keeping with the scalar focus of the local embodied experiences of nature-based recreators, the final article, *Participant auto-ethnographic trail journals: representing more-than-humans through embodied experiences of nature-based*

*recreators*, describes how journaling, which includes photo-elicitation and reflection, captures human-MtH relations in qualitative fieldwork. These are methods that specifically account for the visceral ways in which MtH is experienced and represented by human participants while practicing nature-based recreation within USFS trails. Key for the functionality and success of these methods is the absence of researcher presence during the journaling period of the data collection. The journal component allows participants to experience their nature-based relations without researcher presence, while still recording the data containing evidence of MtH during their sensory-based and embodied encounters. The photo-elicitation component engages even more aspects of sensory experience, allowing the participant to capture visual snapshots of their experiences, again without researcher presence. The reflection component allows participants and researchers to re-engage with the experiences in real time on their own and together, encouraging research that fully considers all research participants, human and MtH as experts. Overall, this chapter pushes the boundaries of what is considered “rigorous” research to include the “messy” (Humberstone, 2013) methods of MtH research so that all participants may be accounted for in research, analysis, and reporting of data. It also calls into question the tendency for researchers to push for their increased presence and involvement in the practices of participants in their site of practice, instead, it shows benefits of researcher absence during prescribed portions of the research.

*Limitations:*

Limitations to this research are varied in scope and scale. As discussed within the third article, *Participant auto-ethnographic trail journals: representing more-than-*

*humans through embodied experiences of nature-based recreators*, attempting to research with and represent MtH in any capacity may be different and difficult, however, this ought not deter researchers from engaging it, as it is productive research that is much needed, and the solutions for present and future will come out of these site specific innovations (see Tsing et al, 2017; Lowenhaupt-Tsing, 2005 & 2015). With this research, I am attempting to better capture human-MtH relationships by way of the human visceral and mobile experience. As this research set out, a number of possible limitations became clear: how does one begin to “get at” the MtH in research settings? How do I, as researcher, identify MtH actors in the data, and more importantly, how do participants identify MtH actors? Do human participants consider MtH to be active agents, and if not, how then is their action still communicated and made visible? What types of methods and questions allow participants to share their MtH experiences? How might my presence as researcher inhibit necessary data reporting by participants in the field? Also contributing to these uncertainties, was the onset of the COVID-19 pandemic which drastically altered planned mobile methods (Anderson, 2004). What I suspected at first to be limitations in research methods of data collection due to COVID-19 social distancing requirements, ended up being incredibly productive for methodological innovations with MtH as it allowed participants to practice their data collection on their own, in their usual trail practices. COVID-19 did not impinge on nature-based recreator trail time and relational time with MtH within those trail places. Although we as humans, do not speak “dirt” or “rock” or “tree” or “trail” linguistically, we are still able to be affected by our MtH co-producers, we are able to translate through the body to identify MtH actors and actions so essential to human experience.

One major limitation with MtH research is breadth and scope of existing research, methods, and analysis. These are becoming more common over the past decade or more, but it still remains difficult for scholars who are interested in MtH research to find clear, substantial, and grounded theory and methods from which to move. This is not insult to MtH scholarship- perhaps this occurs naturally as part of a new field emerging, learning to take its first steps, learning to be with others in this diverse world, learning how best to overcome challenges, how to speak local languages, and how to contribute to its community in productive ways. Also, the existing “messiness” of MtH research in many ways works to the advantage of each project (see Bell et al, 2017), allowing for the true diversity of human and MtH participants to be considered instead of restricting them with steadfast rules of existing and fixed methods.

Aside from the considerations of messy methods, this research also recognizes the limitations to possible implications and outcomes of this work. On all scales, capitalocentrism and western narratives of “progress” and “modernity” are firmly culturally embedded within much of academia and “western” global cultures. This may impact the reach and reception of these research findings as those embedded within these systems might find it difficult to attempt messy methods and/or to acknowledge that MtC valuations or MtH actors exist. What is an interesting affront to this, is the ways that nature-based trail recreators within this project were practicing convivial valuation systems- more-than-capitalist socioeconomic subjects. Therefore, although capitalocentrism may feign dominance, subjects are not homogenous nor static. Moreover, it would be hypocritical to allow this to deter further research within these MtC and MtH realms, as demonstrating existing, yet underrepresented actors is necessary

work for critical geographers and any human wishing to see a more just, equitable, and healthy world- socially and environmentally. Moving forward, it is my hope that these MtC and MtH tools be employed in a wide variety of research contexts to better assess their functionality with other forms of MtC and MtH- human relations.

*Implications:*

Nobody is able to describe what the value of our public lands are, we just keep struggling at it, and we are collecting data from all the state agencies on participation rates...trying to find ways to draw that value. Of course its valuable, it's kinda tough but it has to have some fundamental aspects that can be quantified ..or it won't get put into use....Norwegian friluftsliv...a Norwegian cultural phenomena and they really believe that being in nature is vital to their life and they incorporate volunteering to do things in nature as vital to their life and this centeredness around nature, a really cool cultural theory, even more esoteric than just saying, trails are really valuable, if you look at it [as] a cultural phenomenon, there's all kinds of things we can't quantify that are necessary for our culture, no one asks about it, no one questions it..... (Layla, interview 1, 11/30/2020).

Layla's quote presented in article one, *Visceral Value: nature-based recreation and embodied more-than-capitalist practices with/in USFS trail places*, demonstrates the structural tensions occurring due, in large part, to hegemonic capitalocentrism and its impacts on humans, MtH, their valuations, their relations, and the places of those valuations and relations. Layla's quote also presents possibility and logic for alternatives to this stifling and oopressive capitalocentrism. This is particularly where this research aims to contribute: as strengths-based<sup>17</sup> interventions guided by *weak theory*. By

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<sup>17</sup> Strengths-based approaches are common in community-based participatory research in which they focus on the strengths of communities/research/participants/possibilities instead of dwelling on and regurgitating the existing problems. This is referenced in paper 1, *visceral values*, in conjunction with the presentation of *weak theory*.

contributing to those theorists and practitioners that opt to frame their research and analysis in weak theory manners, this research joins the ranks of the critical problem-solvers working to innovate within the existing and possible worlds (see Tsing et al., 2017; Lowenhaupt-Tsing, 2005 & 2015; Haraway, 2008 & 2016; Bennett, 2001 & 2010; Miller, 2019; Roelvink, 2016; Roelvink et al, 2015), scholars who refuse to be buried under the trauma and devastation and prophesized global destruction so common in public and academic rhetoric today. Instead, they recognize the existing socioeconomic and sociocultural structures within which we learn to know the world. They join Bastian in questioning, “whether the injunctions of Western anthropocentrism might have unnecessarily restricted how participation is imagined, and to reconsider to whom its commitments might be made” (2017: 19). Bravely facing this question with innovative and novel theory, methods, and practice is what makes these scholars contributions so powerful for human and MtH alike.

This moment poses important questions about the ethical and ontological character of the human-natures relationships: how are they conceived and influenced structurally? More importantly, how are they experienced and practiced by human beings and MtH actors on and with the ground at the sites of the body? Specifically, this research adds tools for locating and highlighting MtC alternatives and MtH-Human relations. These tools, far from stuck to these nature-based and mobile settings within which they were conceived, are capable of being carried into any research interested in human-MtH relations and MtC diverse valuing and socioeconomic variations as they each present ways of identifying and representing these inter-relations in place. This research as a whole, progresses existing knowledge and method regarding not only

practice in USFS spaces, but also the importance of focusing on topics, agents, and actions that are not represented or are underrepresented. It is via participant experiences and data that we are able to best understand and represent the importance of all actors and the places that house them. Moreover, this research encourages further study on MtC valuations and MtH actors in general, and in particular within US Forest Service public land sites, sites shown through participant data, to be invaluable places of MtH relational exchanges, MtC valuations, recreation and movement, and “freedom” for those who recreate with/in them. This research encourages further expansion of site specific innovations in theory and practice, innovations that are literally *grounded* (Ingold, 2011) in the humans, MtH, and places within which we engage, as Tempest-Williams contends, “If we can learn to listen to the land, we can learn to listen to each other.” (Tempest-Williams, 2016: 362).



**Works cited:**

- Anderson, J. (2004). Talking whilst walking a geographical archaeology of knowledge. *Area*, 36(3). 254-261.
- Bastian, M. (2017). Towards a more-than-human participatory research. In Bastian, M., O. Jones, N. Moore, E. Roe eds. *Participatory Research in More-than-human Worlds*. London: Routledge, 19-37.
- Bell, S.J., Instone, L., & Mee, K.J. (2017). Engaged Witnessing: Researching with the more-than-human. *Area*, 28(50). 136-144.
- Bennett, J. (2001). *The Enchantment of Modern Life: Attachments, Crossing, and Ethics*. Princeton: Princeton University Press.
- Bennett, J. (2010). *Vibrant Matter: a political ecology of things*. Durham: Duke University Press.
- Fishel, S.R. (2019). Of other movements: nonhuman mobility in the Anthropocene. *Mobilities*, 14(3). 351-362.
- Gibson-Graham, J.K. (1996). *The End of Capitalism (As We Knew It): A Feminist Critique of Political Economy*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K. (2006). *A Postcapitalist Politics*. Minneapolis: The University of Minnesota Press.
- Gibson-Graham, J.K., Cameron, J, and Healy, S. (2015). *Take back the Economy*. Minneapolis: University of Minnesota Press
- Gibson-Graham, J.K. and Roelvink, G. (2009). An economic ethics for the Anthropocene. *Antipode*, 41(1). 320-346. Gibson-graham et al 2016
- Gibson-Graham, J.K., Hill, A. and Law, L. (2016). *Re-embedding economies in ecologies: resilience building in more than human communities*. *Building Research and Information*, 44(7): 703-716.
- Haraway, D. (2008). *When Species Meet*. Minneapolis: University of Minnesota Press.
- Haraway, D.J. (2016). *Staying with the Trouble: Making Kin in the Chthulucene*. Duke University Press.
- Hayes-Conroy, J. and Hayes-Conroy, A. (2010). Visceral Geographies: Mattering, Relating, and Defying. *Geography Compass*, 4/9 (2010), 1273-1283.
- Hayes-Conroy, Sexton, A.E., Sweet, E.L. et al. (2017). Better than text? Critical reflections on the practices of visceral methodologies in human geography. *Geoforum*, 82(2017), 200-201.
- Huber, M. (2018). Resource geographies I: Valuing nature (or not). *Progress in Human Geography*, 42(1), 148-159.

- Humberstone, B. (2013). Adventurous activities, embodiment and nature: Spiritual, sensual and sustainable? Embodying environmental justice. *Motriz*, 19(3). 565-571.
- Ingold, T. (2011). *Being Alive: Essays on Movement, Knowledge and Description*. New York: Routledge.
- Lowenhaupt-Tsing, A. (2005). *Friction: An ethnography of global connection*. Princeton: Princeton University Press.
- Lowenhaupt Tsing, A. (2015). *The Mushroom at the End of the World: on the possibility of life in capitalist ruins*. Princeton: Princeton University Press
- Miller, E. (2019). *Reimagining Livelihoods: Life Beyond Economy, Society, and Environment*. Minneapolis: The University of Minnesota Press.
- Mills, James E. (2014) *The Adventure Gap: Changing the Face of the Outdoors*. Seattle: Mountaineers Books.
- Roelvink, G. (2016). *Building dignified worlds: geographies of collective action*. Minneapolis: University of Minnesota Press.
- Roelvink, G., St. Martin, K., and Gibson-Graham, J.K. (2015) *Making Other Worlds Possible: Performing Diverse Economies*. Minneapolis: The University of Minnesota Press.
- Tempest-Williams, T. (2016). *The Hour of Land: A Personal Topography of America's National Parks*. New York: Picador.
- Tsing, A. with Swanson, H. et al. (2017). *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.

## **Appendix A:**

### **UNR International Review Board Consent Information Sheet**

We are conducting a research study to learn what relationships exist between people and public lands in the Reno/Carson area.

If you volunteer to be part of this research, you will be asked to complete a questionnaire and/or interview. If you wish to be further involved to share more in-depth public land experiences, you may choose to be involved in longer interviews, photography, voice recordings, storytelling, or outdoor activities.

Your participation should take from 15 minutes up to 10 hours over three months.

This study is considered to be minimal risk of harm.

Benefits of doing research are not definite; but we hope to learn what public lands mean for people and what human involvement on the lands mean for the lands themselves. There are no direct benefits to you in this study activity.

The researchers and the University of Nevada, Reno will treat your identity and the information collected about you with professional standards of confidentiality and protect it to the extent allowed by law. You will not be personally identified in any reports or publications that may result from this study. The US Department of Health and Human Services, the University of Nevada, Reno Research Integrity Office, and the Institutional Review Board look at your study records.

#### **Required Language**

You may ask questions of the researcher at any time by calling Solana Kline at (208)271-6941 or by sending an email to Solana Kline at [skline@nevada.unr.edu](mailto:skline@nevada.unr.edu).

Your participation in this study is completely voluntary. You may stop at any time. Declining to participate or stopping your participation will not have any negative effects to you or on you.

You may ask about your rights as a research participant. If you have questions, concerns, or complaints about this research, you may report them (anonymously if you so choose) by calling the University of Nevada, Reno Research Integrity Office at 775.327.2368.

Thank you for your participation in this research project!

## Appendix B:

### Title: Environmental Subjectivities of Recreators on US Public Lands

#### Research Participant Information Sheet

Thank you for participating! This is an information sheet that details what you can expect as a participant in this research. If you have any questions/comments/concerns please email or call me, Solana Kline, anytime: [skline@nevada.unr.edu](mailto:skline@nevada.unr.edu), (208)271-6941.

1. **Introductions:** Hello! I am Solana Kline. I am a geography PhD student at the University of Nevada, Reno. I love public lands and trails (for all their diverse uses) and am passionate about my research as it hopes to make sure our public lands stay around for a very long time!
2. **Basic Project Information:** This project is looking at: what kinds of relationships people have with the natural environment on USFS trails. It is also looking at how your body movement on the trail might give you a different experience in nature than if you were not moving. In general, this research hopes to uncover the many ways that trail users value the trail and the environment around it. The “formal” central questions for this research project are: How do public land recreators perceive and practice their relationship to nature? How do sensory and embodied practices and experiences form and reform this relationship?
3. **Geographical Region:** This research is focused on trails within the Humboldt-Toiyabe National Forest within 30 miles of Reno and Carson City, Nevada. The Humboldt-Toiyabe National Forest is wide ranging. All national forests within Nevada are housed under Humboldt-Toiyabe. However, this project is focusing on the sections of Humboldt-Toiyabe most geographically accessible to Reno and Carson areas. Please see the map attached in your introductory email packet. Each time you visit no-fee required, multi-use, single-track trails within this region, you can complete a trail journal. See definitions provided at the end of this information sheet.
4. **General timeline:** This research duration of your involvement in the research span approximately 1.5 months, beginning when you agree to participate further in the research. During this time, as a participant, you have the opportunity to engage in the following activities: the initial email questionnaire (15 minutes), trail journals (time expenditure as you wish, explained below), and 2 telephone or video-chat interviews (no longer than 1 hour each).
5. **Activities:** As a participant in this research, you will can choose to engage in the following activities: the initial email questionnaire (15 minutes), trail journals (time expenditure as you wish), and 2 telephone or video-chat interviews (no longer than 1 hour each). The initial questionnaire will be emailed to you as part of your introductory email packet. It should take no longer than 15 minutes and you can email it back to me as an attachment or as written response within the body of the email. Once I receive this questionnaire, I will email you to arrange a time for an initial telephone/video chat interview in which I will explain how the trail journals will work in detail, including journal prompts. I will contact you via email to schedule mid-project telephone check-in and final telephone/video chat interview.
6. **Confidentiality:** Your participation and all information you provide throughout the duration of the research are confidential and will be kept under literal lock and key. You

will be given the opportunity to self-select a pseudonym or one will be provided for you if you wish. Any video or voice recordings that you may decide to provide will be transcribed into written form and will be labeled with your pseudonym. No sensitive information will be asked of you.

7. **Participation:** As a participant, you get to choose how much, how little, or if at all, you participate in this research. You may stop at any time for any reason. Any participation is so much appreciated and you are not obligated to this research for any more time or effort than you are comfortable with.
8. **Transparency and Ethics:** This project seeks complete transparency and ethical practices in the research. Large part of this is making sure that you, as participant, have input in the research process. At any point, if you have ideas or comments, please let me know via telephone or email. You are the most important part of this research process! I will keep open lines of communication with you in regards to any changes in the project. Any uses of the data you provide will be shared with you before submission or publication. All information you provide will be anonymous.
9. **Useful Definitions:**

**Public Land:** Public land in the United States is any land that is held Federally for the purposes of American public use/access.

**USFS:** The United States Forest Service is housed under the U.S. Department of Agriculture. USFS lands are designated by the US government as multi-use and are lands set aside for the present and future of all Americans. These lands promote recreation as one of the main uses alongside resource extraction and conservation (ex. Wilderness designation).

**Single-Track Sites/Trails:** Trails that are narrow (2-3 ft wide) and are designated as trails on maps and signage. They are usually hand or machine built and do not allow 4 wheeled vehicles.

**Multi-Use Sites/Trails:** Trails and other USFS areas that allow multiple user groups in the same space/trail. For example, trails that allow hikers, cyclists, equestrian, and dirt bikes.

**No-Fee Sites/Trails:** Trails and sites that do not charge a fee for parking or using the trails.





**Appendix D:****Title: Environmental Subjectivities of Recreators on US Public Lands****Interview 1 Questions:**

1. How did you originally learn about USFS lands and trails?
2. What is “nature” to you and how would you describe your relationships with “nature”?
3. How would you define/describe the term: Nature?
4. How would you define/describe the term: the Environment/the biological environment?
5. In general: what do you think/How do you feel about the “ nature”while on the trails?
6. How does your time on USFS trails impact your life when not on the trails?
7. How does your time not on the trails impact your experinecs on the trails?
8. How does your time spent on USFS trails impact how you feel about ‘nature’/the biological environment in general?
9. Do you feel like you are part of or separate from “nature” while on the USFS trails?
10. Do you feel any sense of community (with people or with nature) when on the trails? How/why/describe?
11. Do you feel any sort of ownership or belonging in these trail spaces? What rituals/practices are associated with this?
12. How do you feel physically and mentally before/during/after time on the USFS trails experiences?
13. Do you purposefully physically touch any nature/things in the environment? Explain: (ie hugging trees, walking barefoot,
14. How does your physical and mental experience on the trail change each time/throughout the activity? How/why?
15. Once you leave the trail site, how do you think about your time on the trail?
16. How is your experience different if you are moving or sedentary at these trail sites? How/why?
17. Why do you choose to use USFS trails as opposed to other sites to do your chosen activities?



## Appendix E:

### **Title: Introduction to Trail Journals:**

Thank you for your participation in the project up to this point. Now we get into the fun part of the research! These instructions will help to guide you through your trail-journaling process. The trail journals are an opportunity for you to share your experiences on USFS trails. This research is centrally focused on exploring the unique relationships and experiences that each trail user has with nature during each trail experience. The trail journals will be the main means of gathering data about your relationships and experiences with trails, so the more detail you can provide the better!

**Duration:** 1 month, with at least one journal entry per week (4 or more total entries)

### **What to include:**

- One photograph from the entire one-month journaling period that you feel represents your relationships/experiences in nature on these trails (ie. your favorite trail, a good day on the trail, a stream, etc.)
- At least one journal entry per week consisting of both current trail experiences as well as memories you have of past trail experiences. Past trail experiences can be journaled anytime/anywhere you remember one of your favorite or memorable trail experiences from your past on USFS trails within the Humboldt-Toiyabe National Forest. Current Trail Experiences can be journaled before, during, immediately after your current trail experience on USFS trails within the Humboldt-Toiyabe National Forest. As we are headed into the Fall, if you are having more memories of trail experiences than time on the trail currently, please journal as much as you like about these memories of past trail experiences as well.
- A few specific details should be present in each journal entry (see below) but otherwise, the journals should be unique to you and you can include the information that you feel like sharing. Prompt/guide questions are listed below.

**Format:** Format for trail journals will likely vary for each participant. Ideally, if using a format that is comfortable for you, you will be able to journal easily and often! Handwritten on paper, typed into telephone or computer, voicerecorded on telephone or computer, voice-to-text or voice transcribed to a notetaking app on telephone or computer, and video recorded on telephone or computer are all possible means of journaling. As long as you record the journals in a format that you are able to email, scan and email, or post-mail me, you can choose whichever format works for you! You can also alternate the format you are using as much as you like.

### **Communication and Journal Submission:**

I will reach out to you via email midway through your one-month of journaling to check in and to see if you have any questions/comments/concerns. At the end of this journaling period, I will contact you via email for you to email or mail your completed journals to me. We will also schedule a closing interview at that time.

If you have any questions about journaling or the project at any time, please call/text/email me: [skline@nevada.unr.edu](mailto:skline@nevada.unr.edu), (208)271-6941

Thank you and happy trails!

Solana

**Guides/Prompts for Journal entries:**

**If you have the time/desire, depth and detail provide the most potential data for the research project.**

**For each journal entry please include:**

- The daily basics: Your name, date of journal entry, date of trail experience, location, time/mileage on trail, and type of activity you are performing on the trail, and if you were visiting the trail alone or with others (including pets!).
- A paragraph (or more) of general description and reflection of your trail experience from this day. Focus on the following specifically while on the trail and in your journal entries:
  - rituals/routines you have on the trail
  - your physical, emotional, and/or spiritual state before/during/after trail time
  - what you physically feel/notice with your senses while on the trail while your body is moving (ie. the trail texture/terrain, outside temperature, sounds, sights, smells, touch, etc.)
- A page (or more!) for the main body of the journal. In this section, please use the following three questions to loosely guide your entry.
  1. What do you feel you get AND give (physically, mentally, spiritually etc.) from your time on trails today?
  2. How do you imagine the physical environment/nature is experiencing YOU while you are on the trail?
  3. What is of value to you on the trail and in your trail experience? How do you think about the value of this trail space for you?
  4. How does physical contact with the trail/ environment around the trail impact your trail experience physically and mentally? (ie. Foot contact with each step, varied terrain, varied weather, varied trail conditions, etc.)
  5. What do you sense while on the trail? What senses do you notice you are using and what do you pick up from them?
- Any additional, thoughts, stories, thoughts, etc.

## Appendix F:

### Closing Interview Questions:

\*Organized by Dissertation article ideas/themes/central questions

### The Photograph:

1. Why did you take this photograph? What does it symbolize to you about the trail and your relationship to nature?

### General Intro:

What was your journaling process like? Did you it impact your trail experience at all? Did it feel obtrusive at all?

### 1. place-based identities in nature, making place through movement and the senses

**Central Question:** How are recreators forming nature-based subjectivities through embodiment and sensing?

General Themes: body movement, embodiment, sensing, place-making, identities, agency, physical place, etc.

1. How do you relate to or experience your body on the trails vs. other environments. Did the journaling activity change your awareness of your experience at all – your connections to your body and place? In what ways?
1. **How does moving your body vs. being sedentary on the trail change your trail experience?**
2. **What is your preferred mode of movement on USFS trails? Why is this? What makes you/inspires you to move your body in these ways on the trails?**
3. Have you experienced any kind of “flow” state / “in the zone” while on the trail? What is this? What does it feel like? What do you think about in this state?
4. Does the texture and path of the trail impact your physical and mental/emotional experience on the trail? How/why?
5. Are there certain parts of your body that you notice more when moving on the trail?

### 2. alternative economies and valuing / worth

**Central Question:** What are alternative means of valuing public lands and how/why is this of importance?

General themes: knowledge, rituals, relationships, time, value, worth, reason for being there,

1. What is of value to you on the trail and how do you think of value in the trail space? in your trail experience? How do you think about the value of this trail space for you? How do you value this space? What is it worth to you and in what ways?
2. How do you perceive or experience time on the trails? Does that experience differ from other spaces in your life? How?
3. Does money factor into your time while on the USFS trails involved in this study (whether in thought or action)?
4. Did this journaling experience change your connection to or understanding of nature?
5. Do you perceive any sort of communities forming/existing in/on/related to the USFS trail spaces?
6. Do you feel like you have any specialized knowledge due to/for your time recreating on the USFS trails? (ie. maps, food, gear, weather, environment, etc.)
7. Do you share your trail experiences with anyone in verbal/visual formats?
8. When you think of USFS lands and trails, do you/how do you associate it with being American? American identity? Do you think all Americans have the “right” to access these spaces?

If have time:

1. Are USFS lands important to you? Are they a necessary space for the recreation you do and the relationships you have to nature there? For your personal/collective identity?
2. What do you feel you get AND give (physically, mentally, spiritually etc.) from your time on trails today?

### **3. re-creating methods: human, MtH, methods and agency**

**Central Question:** how do we create and employ methods that represent MtH agency and show the human-MtH relationships? Especially in instances of field research with human recreation in/with natures?

General Themes: mth agency, participants in mth research, methods in mth, h and mth subjectivities, human-mth communities in place

1. How do you imagine the physical environment/nature is experiencing/valuing YOU while you are on the trail? (ie reference the getting/giving on trail experience)
2. How is trail time social or communal time? With whom/what? How/why? (Do you consider your interactions in/with nature on USFS trails to be “relationships” in any way? Do you consider any parts of nature to be a “community” in any way?)

3. Activity: List the elements and actors and entities involved in your trail experience and how do they relate to one another? (Do you consider any parts of nature/the environment to be alive and participating in your trail experience?) Make list or map/visualize the list and connections in the list.
4. Reflect on your journaling experience during this research, did anything stand out to you regarding your relationships to physical movement, trails, nature, the way you use and value public lands, etc?
5. Has participating in this research impacted how you think/feel about USFS trail spaces and nature? Expand.
6. When journaling, are there questions/focus points you feel you would have liked to cover/ share about your trail experiences/relationships with nature, but were not asked? Is there anything that you feel is important to share about your personal relationships to nature, how you interact with and value nature/trails on USFS lands?

If time:

1. question about if visiting trails multiple times, does trail itself change? How impact experience?

How might your mental and physical experience on the trail differ if you are alone vs. if you are with