Feral Cats and Their Landscapes: Animal Spaces and Beastly Places in Western Australia

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Feral cats are contentious and transgressive, with opposing views on whether to classify them as abandoned pets, wild animals, or invasive species. Concerns about their welfare often conflict with fears that they are impacting native fauna. This paper presents the results of a case study of human-feral cat relations that took place in southern Ontario, Canada in 2014. This research investigates the discursive constructions of feral cats and their 'animal spaces' using the results of 40 semi-structured interviews. Following recent calls to move beyond human representations of animals and better integrate animals' geographies, this study also explores the 'beastly places' of feral cats using the results of field observations of 20 feral cat colonies and anecdotal evidence from colony caretakers. The results emphasize the diversity of free-living contexts and the complexity of management options. This paper ends by discussing the place-making practices of cats, along with their potential ethical ramifications. Overall, it illustrates the importance of spatial factors in understanding the complex social and ethical dynamics of human-animal relations, and advances an understanding of non-human animals as inhabitants of personally meaningful homes.

Keywords: feral cat; animal geographies; place-making; non-human agency; animal spaces; beastly places

Introduction

'Feral I think is…in this kind of grey area of not really belonging. But maybe not through their own choice…they are between those two things, accepted and not accepted' (study participant)

Feral cats are contentious and transgressive, traversing the socially-constructed boundaries between nature/culture and domesticated/wild. In North America there has

been growing public concern about the impacts of feral cats on songbirds over the last decade. Recent popular media claims: “That Cuddly Kitty Is Deadlier Than You Think” (Angier, 2013), “The Biggest Threat to U.S. Wildlife? Cats” (Paramaguru, 2013), and “‘Stone-cold serial killers’: Domestic cats slaughter billions upon billions of animals in US every year” (Walker, 2013). These articles have led to increased public awareness of the prevalence of feral cats, and have exacerbated conflicts between individuals concerned with damage to native fauna (‘bird people’), and those opposed to lethal control and/or concerned for cat welfare (‘cat people’). Further, a recent Environment Canada study estimates the Canadian feral cat population is responsible for the majority of the 100 to 350 million birds killed by cats each year in the country (Blancher, 2013). While such discourses paint a picture of feral cats as non-native killing-machines threatening our valuable endemic species, counter-discourses exist that paint a different picture: of animals in need of assistance, or that belong as community-members. At the same time as some individuals call for intensive, widespread eradication of feral cats, other individuals are dedicating large amounts of time and resources to maintaining feral colonies through the provision of food, shelter, and veterinary care.

These conflicts over whether or not feral cats belong stem from divergent understandings of what kind of animal feral cats are. As the descendants of domesticated pets transported to North America by humans, many see free-living cats as out of place. In one interview, a study participant made the following interesting comment with respect to rural cats: ‘Cats are of the barn … [farmers] don’t bring the cats with them. So the cats almost are of place as opposed to of people’. As descendants of domesticated animals—animals ‘of people’—can cats that have feralized ever be encountered as animals ‘of place’? Can they ever forge an identity independent of individual human owners, and be considered to belong in free-living contexts?

Feral cats have been studied primarily from within veterinary and wildlife science disciplines, featuring three distinct areas of investigation. First, research analyzes the condition of feral cats in colonies, and occasionally studies the humans who are associated with them (e.g. Centonze & Levy, 2002; Levy, Woods, Turick, & Etheridge, 2003), or else physically examines cats in TNR programs (e.g. Scott, Levy, & Crawford, 2002). Second, research examines and evaluates feral cat management strategies in terms of cat welfare, population control, or mitigating wildlife damage (e.g. Foley, Foley, Levy, & Paik, 2005; Jessup, 2004; Levy & Crawford, 2004; Levy, Gale,

& Gale, 2003; Longcore, Rich, & Sullivan, 2009; Loyd & DeVore, 2010; Nutter, Stoskopf, & Levine, 2004; Robertson, 2008; Stoskopf & Nutter, 2004; Winter, 2004). Third, research explores public opinions on feral cats and preferences for their management, often via large surveys (e.g. Ash & Adams, 2003; Dabritz, Atwill, Gardner, Miller, & Conrad, 2006; Lord, 2008; Loyd & Miller, 2010). Feral cat scholarship primarily engages extensive, quantitative methodologies to produce descriptive or applied research. Two exceptions include Hutson's (2011) use of an intensive interview-based methodology to explore people's environmental attitudes towards feral cats, and Thompson's (2012) ethnographic, field-based investigation of a TNR campaign in the USA. Few studies critically investigate the social construction of feral cats or explore cat agency, subjectivities, or contested claims to place; few studies have investigated feral cats in the Canadian context (save for Blancher, 2013).

To address these gaps in existing research, the objective of this paper is to qualitatively explore human discursive constructions of feral cats, as well as cat place-making practices based on a case study of Ontario, Canada in 2014. Participant statements on where cats belong are offered as a way to illustrate the complex and contradictory perspectives that people have about feral cats and their place in society. Feral cat place-relations are included to offer insights on the lived experiences of cats and how cats may establish themselves as part of broader landscapes.

Birke (2014) notes that feral animals are most often studied in natural science disciplines, and within such studies 'the framework remains with wild species – how they use territory, for example – rather than how they engage with humans or with our social spaces. For that, we need analysis from other disciplines, such as geography' (p. 47). Accordingly, this research is grounded in and builds upon animal geography scholarship, which emphasizes discursive constructions of animals, as well as more-than-human agencies and material lived-experiences. While it would be useful to explore the relationship between human constructions and cat practices, and empirical evidence on feral cat impacts on local contexts, these data are currently undocumented and/or inaccessible in Canada.

The remainder of the paper is organized as follows. It offers an overview of the growing trend in animal geographies to investigate both 'animal spaces' and their 'beastly places' (Philo & Wilbert, 2000). It then describes the methodological approach,

which involved semi-structured interviews with welfarists and conservationists to establish human constructions of feral cats, and field observations of feral cat colonies triangulated with colony caretaker insights and scientific literature to investigate feral cat experiences. The paper then turns to the research findings to describe main trends, including the perception of feral cats as abandoned pets who belong in households; an acceptance of semi-feral cats in rural areas as rodent control; a deep aversion to the presence of feral cats in nature; and strong contention surrounding the acceptability of urban feral colonies. These findings emphasize the prevalence of nature/culture dualisms, and the importance of spatial considerations. This paper continues with a consideration of the place-making practices of cats, along with their potential ethical ramifications. It concludes with a summary of main insights and contributions of this research on human-feral cat relations in Ontario, Canada.

Animal Spaces, Beastly Places

Animal geographers are interested in exploring the spatial dimensions of human-animal interactions. Much of the existing scholarship has centred on what Philo and Wilbert (2000) term ‘animal spaces’, or human ideas about which animals belong where. This has involved explorations of the discursive construction of animals, including how they are categorized, the spaces that are allocated to them, and where they are seen as in or out of place. Investigations into animal spaces have frequently focussed on transgressions, such as the boundary-crossings of wild animals into the urban sphere, representing a breach of nature into culture. For example, concepts such as ‘transspecies urban theory’ (Wolch, West, & Gaines, 1995; Hovorka, 2008) and ‘zoöpolis’ envision multispecies, ‘renaturalized, re-enchanted’ cities (Wolch, 1996, p. 29), and call for us to acknowledge the ubiquity of ‘subaltern “animal town[s]”’ (Wolch, 1996, p. 32). Other studies investigate the transgression represented by non-native species. For example, Lavau (2011) explores the ‘nature/s of belonging’ of several fish species in an Australian river system, and Notzke (2013) examines stakeholder perspectives on feral horses in Western Canada. On the subject of feral cats, Griffiths, Poulter, and Sibley (2000) explore the ways in which human constructions of urban spaces result in feral cats being seen as either sources of affection or abjection. Echoing Philo’s (1998) observations on the motivations behind the exodus of agricultural animals from urban areas, Griffiths et al. (2000) write that agendas of purification drive the desire to purge feral cats from city spaces.

Recently, animal geographers have argued that by focusing on discursive constructions of animals alone we fail to consider animal agency and subjectivities, ignoring their lived-experiences. The result has been increased attention to the 'beastly places' of animals, the places they forge for themselves 'reflective of their own "beastly" ways, ends, doings, joys and sufferings' (Philo & Wilbert, 2000, p. 14). These enlivened 'animals' geographies' (Hodgetts & Lorimer, 2015) seek to move beyond the 'human side of human-animal relations' (Buller, 2015, p. 375). For example, using a case study of Angelica, an octopus in a public aquarium, Bear (2011) concludes that by attending to the lives of animals as individuals we can move beyond merely human representations and allow them to speak for themselves. This is also part of a broader call to attend to non-human difference, and develop an understanding of animals as diverse, unique individuals (Bear, 2011; Lulka, 2009; Philo, 2005).

There are several explorations of animal agency and place-making within the animal geography scholarship. Power (2008, 2009) and Yeo and Neo (2010) acknowledge the agency of dogs, possums, and macaques in influencing human behaviour and experiences of homes. Chambers and Main (2014) recognize the parrot Sirocco as 'playing an active role in place-making' (p. 69) by transgressing species norms and the desires of conservationists in choosing to occupy human spaces rather than engaging with members of his own species. Barua (2014) explores human-elephant cohabitation in India, describing the SP04 herd's movements as they shape space and acquire skills to navigate a shared landscape. Van Dooren and Rose (2012) consider penguins' and flying foxes' subjective experiences of home in Sydney, Australia. The authors approach non-human place-making through a lens of 'storying', wherein a story is defined as 'that which emerges out of an ability to engage with happenings in the world as sequential and meaningful events' (p. 3). In investigating such multispecies stories the authors employ secondary biological and historical accounts of the behaviour of specific colonies, in order to draw such conclusions as: 'penguins alter places through processes of burrowing, breeding, hunting, excreting, and more' (p. 9).

This paper seeks to contribute to the animal geography scholarship by building off of the above-described work. It aims to extend this scholarship by investigating animals' subjective experiences of place through an empirical case study. It uses data gathered in feral cat colonies, triangulated with anecdotal and scientific knowledge of cat behaviour and ecology, to investigate non-human place-making practices. Such

posthumanist exercises operate to destabilize the foundation of anthropocentric thought underlying much of the social sciences by emphasizing the ways in which animals are actors in more-than-human social and spatial processes. This paper therefore highlights non-human agency, and the processes through which animals engage with the landscape to create meaningful homes.

Methodology

Our methodological approach was designed to integrate human understandings of feral cats with the realities of these cats' lived-experiences. It is based on the premise that 'research on and from the lives of the marginalized (here animals) is often forgotten or intentionally ignored, thus generating partial and distorted accounts of society' (Hovorka, 2015, p. 10). We recognize cats as valuable research subjects themselves, and hope to illustrate some of the ways in which animals shape socio-spatial dynamics. Feral cats are defined as members of the species *Felis catus* who are born outside of human ownership. This may be contrasted with stray cats, abandoned individuals who were once owned, and thus are generally socialized to humans. 'Free-living' would encompass both strays and ferals. Additionally, study participants perceived ferality as a spectrum, where 'true feral' cats avoid human interaction and are behaviourally more like wild animals, and 'semi-feral' cats are 'kind of half feral, and…you can possibly work with'.

Our study took place in southern Ontario, Canada. Though it is difficult to estimate feral cat populations, a study by Environment Canada placed the national population at somewhere between 1.4 to 4.2 million (Blancher, 2013). In the largest city, Toronto, trap-neuter-return (TNR) programs have been formalized through the Animal Control Bylaw as the appropriate management strategy for feral cats. In TNR programs, cats are trapped, brought to a clinic, vaccinated and spayed or neutered, then returned to their colonies. A Feral Cat TNR Coalition provides free spay/neuter clinics for feral cats, and education and training for colony caretakers. No other communities in southern Ontario have centralized feral cat management initiatives, and unsocialized, unadoptable cats who are brought to shelters are generally euthanized. Many small cat rescues undertake TNR throughout the region in both urban and rural areas, but they often have issues with capacity, as well as conflicts with community-members who do not want cats to be maintained in colonies.

Data collection occurred between April and September 2014. Semi-structured interviews were employed to investigate the social construction of feral cats. Questions were designed to gain an understanding of individuals' perceptions of the 'proper place' of feral cats in human society. Forty participants were interviewed, including 21 who aligned with animal welfare perspectives, and 15 who were classified as conservationists. Four fell into an intermediate group, holding strong views aligning with both positions. Participants with these polarized perspectives were selected on the basis that they would represent well-developed or extreme standpoints on the subject and were likely to demonstrate clear conceptualizations, providing the greatest opportunity for understanding the underlying assumptions and deeper dimensions of conflicting opinions. Participant recruitment took place through purposive, opportunistic, and snowball sampling. Interviews were audio-recoded, transcribed, and coded for themes.

Twenty feral cat colonies in the region were identified to investigate the lives and places of feral cats. Colonies were selected through opportunistic sampling wherein colony caretakers were recruited through advertisements, and accompanied to their colonies. The 20 visited colonies contained approximately 300 cats altogether, and colonies ranged in size from 2 to 100 individuals. While participants discussed rural colonies, only one farm was visited during data collection. Colony locales are not provided here on ethical grounds so as to protect caretaker anonymity and feral cat safety.

Colony data collection included observing and/or assisting with caretaking activities such as putting down food and water, moving and constructing shelters, and trapping and transporting cats. It also included documenting caretaker actions and commentary about cat circumstances and experiences as well as caretaking routines. In particular, stories about specific events and individuals were recorded, as these anecdotes were best able to provide glimpses into the lives of feral cats, revealing insights on their subjective experiences (Bear, 2011). This method was based on the premise that individuals who spend the most time with animals will have important, if informal, intimate knowledge of the animals (Costall, 1988), or 'epistemic authority' (Cox & Ashford, 1998). Arguably over-reliance on secondary data (here caretaker commentary and scientific literature) may be seen as a limitation. Nevertheless, as Johnston (2008) writes:

> Those who share their lives with nonhumans for any reason – food, work, or companionship – may share this potential to know with and about them. In fact, these notions might lead us to broader questions, not only about these relationships and the ways in which they are formed and understood, but the ways in which they might encourage a responsible and informed anthropomorphism that might speak to a more intuitive animal ethics. (p. 643)

Further, primary observations with some 100 feral cats included body condition, behaviour, and interactions with other cats and with caretakers; pictures and videos were taken to document behaviour. In absence of formal ethological training observational methods were based upon literature on feline biology and behaviour, more-than-human social science methodologies such as responsible anthropomorphism (Jickling & Paquet, 2005; Johnston, 2008) and affective encounters (Bear, 2011), as well as informal training through many years of living with companion cats. One limitation of this methodology is that because of the reclusive nature of 'true feral' cats, the majority of observations apply to 'semi-feral' cats who could be observed directly.

Interview results, triangulated with direct observations, caretaker anecdotes and scientific literature on free-living cats, were analyzed using discourse analysis, which is 'qualitative, interpretive, and constructionist' (Hardy, Harley & Phillips, 2004, p. 19). It is qualitative because rather than measuring the frequency of certain words, etcetera, the content and meaning of statements were of primary interest. It is interpretive as meaning is inferred from statements based on their context, and the researchers' knowledge of the participants and subject matter. It is constructionist because meaning is understood as fluid and socially determined, not fixed and based solely on material phenomena (Hardy et al., 2004; Phillips & Hardy, 2002). Thematic coding via discourse analysis allows for connections to be made between superficial words and deeper, situated meanings (Houle 2013). Ethics approval for participant interviews and field observations were obtained through The University of Guelph Research Ethics Board and Animal Care Services, respectively.

Feral Cat Spaces

This section presents the results of semi-structured interviews which sought to investigate how people see feral cats, where they think feral cats belong, and how they think feral cats should be managed. The predominant views held by participants include: free-living cats should be integrated into households where possible; an appropriate role for cats is as rodent control in rural areas; and feral cats belong least in

natural areas. The maintenance of urban feral colonies was highly contentious. Each of these four trends are detailed below.

Abandoned pets needing homes

The majority of participants held a strong belief that the most appropriate space for feral cats would be human homes. This was based on a conceptualization of feral cats as domesticated pets, who belong in association with human owners within their living spaces. Therefore feral cats were understood as homeless pets, with participants saying 'that's not a wild animal, that's just a homeless animal', and describing feral cats as 'needing help, needing a home, homeless'. Consequently, cats in free-living contexts were interpreted as lacking a home, and out of place. To illustrate, one participant stated: 'I view them as a domestic animal and if no one's looking after them why would they be allowed to persist?' For this reason, many participants wanted to see feral cats socialized and homed, for instance saying: 'I would rather take them out of the wild and give them a safer home', and 'the ideal situation would be to trap them, have them up for adoption and find good homes for them'.

Despite this, a number of participants understood that feral cats are generally not socialized to humans, and therefore could not easily be integrated into households. Colony caretakers in particular emphasized 'you can't house feral cats indoors. That's cruel, then you're better to put them down', 'you're torturing them when you put them in a house…They would be better if you left them outside and gave them their food bowls', 'To put them inside would be cruel. So I just want to support them in their time outside', and

> there's a point where they've been out so long that they've reverted back, and they just can't be domesticated, or they can't become part of a household anymore. And at that point, to me, there's no choice, you either decide to euthanize it or you support them in a feral setting.

This decision about whether to allow feral cats to exist in colonies or euthanize them was extremely contentious. It was most often discussed in the context of urban areas, and is therefore described in that section.

Rural working animals

Many participants saw a role for feral cats in rural areas providing rodent control, making statements such as: 'I understand that there might be a more legitimate role for that species for example in a barn where you don't wish to be overrun with rodents', and 'that's, I guess, really why they're here in the first place…keeping down the rodents if you have hay or grain or whatever, is very important. So they do provide a very necessary service there…I guess that's maybe the place they should be'. Even some conservationists who felt very strongly that feral cats should not exist in the environment were willing to make exceptions for barn cats. For example, one participant explained: 'If ferals are trapped, spayed, and released into a barn where they can catch mice…I can tolerate working animals'. This statement of being able to tolerate what is categorized as a working animal demonstrates an anthropocentric, utilitarian perspective where animals are accorded use value as a result of the service they provide humans.

Many participants also felt that rural cats had a better quality of life. Participants stated: 'I'd be less likely to intervene and to worry about a feral cat that I saw out in a rural setting than I would one in the city', and 'rural cats, I think, they're more comfortable in the barns and places like that'. Frequently, where urban feral cats could not be socialized and adopted into a home, many participants felt that homing them in a barn would be a good solution. As one participant explained: 'if there were an area…maybe around a barn or something like that and you could spay and neuter them…and then put them back in that situation that would be really wonderful'.

Contaminants of nature

Prevalent sentiments on cats in natural areas included: 'really they're not meant to be in the wild', 'they don't really have a place in our ecosystem', and 'I don't think they fit, belong, in the wild'. From a conservationist perspective, concern about the impacts of feral cats on native species was greatest in natural areas, as demonstrated by statements like: 'I think I'm more concerned about feral cats out in the wild environment', and 'I think the top priority would be in natural areas…because natural areas I think, it's kind of clear that they pose threats to our native species'. Participants demonstrated not only

concern for direct threats of predation, but also spoke more generally about natural equilibrium and ecosystem balance. For example, one participant explained:

> I have no belief that under a time frame under which we could manage them could they evolve…to fit into our local environment. I don't view that as realistic really. That's not to say that they might not squeeze their way in, but…I don't imagine there being sort of natural balance.

Such discourses reflect ideas of purity in nature. This is illustrated well in the following statement: 'I really wouldn't want to compromise the nature reserve and its un-contamination by cats'. Another individual explained: 'there's that visceral feeling that people have about what belongs in nature and what doesn't. And there seems to be a visceral feeling that these cats don't belong in nature'. This visceral feeling could also be termed abjection. Kristeva (1982) writes that abjection is rooted in purity and the maintenance of the subject. The human/animal border is required in order for us to retain our vision of the human subject, and thus transgressions resulting in dissolution of the human/animal or culture/nature boundary become sites of abjection. As noted by Griffiths et al. (2000), there is 'a fear of the merging of culture and nature' (p. 60), which results in wild animals in cities being encountered as impure and abject. However, the reverse also becomes true, where purity in wilderness necessitates exclusion of the human. In this way feral cats' designation as 'of culture'—'of people'—results in them being encountered as unnatural, and therefore as sites of abjection in nature. As expressed by one participant: 'feral cats are an artificial creation of human beings…a human-created animal Frankenstein...an artificial wild animal'.

Contested urban occupations

Urban areas emerged as the most contentious. Generally, animal welfare advocates were supportive of maintaining colonies in urban spaces, while conservationists were not. Feral cats were designated as out of place in urban areas due to: perceived danger and poor quality of life; potential nuisance to humans; and the threat they could pose to native fauna. Where feral cats were seen as belonging in urban areas it was due to: the potential for a good quality of life; the ethics of alternatives such as euthanasia; and limited concern for native species in these environments.

In terms of concern for feral cat safety and quality of life, individuals said: 'The risks are higher in cities. Of poisoning, hit by cars', and 'whether it's traffic, or having a

nice drink of antifreeze or being caught by the neighbour's dog, it's not a particularly hospitable environment in an urban area'. There were also concerns for the nuisance or threat feral cats could present to humans. For instance, one participant explained, 'it's not that it's sort of an inherent feature of the environment, so why should other people have to deal with cats in their backyard'. Presumably, the fact that feral cats are not 'an inherent feature of the environment' would be justification for not tolerating their presence where we might tolerate urbanized, native animals like skunks or racoons.

The most frequently-voiced argument against supporting feral colonies in cities was their potential impact on populations of native species, especially songbirds. Participants made statement such as: 'cats are a big problem for wild animals and wild birds in urban areas', and 'there's a lot of backyard feeders, there's a lot of people attracting songbirds, particularly in the winter time. And so the impact on songbirds is huge'. This view was often associated with the designation of feral cats as a non-native, alien, or invasive species. Two participants illustrated this while making the following interesting comparisons: 'if we had dogs out there that were eating little children, you would put the dogs down…we have to manage our ecosystems as best we can with invasive species'; and 'we transport polio around the world today, and we don't let polio run rampant and kill our children, we deal with it…I think what people fail to understand is that feral cats and other invasive populations potentially have as great or greater an impact than polio might predictably have'. These examples vividly illustrate the dichotomy expressed by conservationists between the invasive 'killing-machines' that we are responsible for controlling, and our vulnerable native fauna that we are responsible for protecting. For these reasons, a number of conservationists concluded that 'there's just no place for them…even in the urban environment'.

Conversely, the majority of participants were either openly supportive of, or less concerned about, feral cats living in urban areas. Colony caretakers in particular believed that urban feral cats can have a good quality of life, saying: 'there are these shelters that are these Tupperware containers where they're insulated. So those can be homes, and I think in that kind of a situation the cats can be very happy', 'TNR'd cats released in an urban setting in a controlled environment can have a reasonably good life where they have their own place', 'I think they do just fine. The ones that I see around here, they're quite well fed…they're doing well', and 'if it's not such a bad spot for them to find that shelter and that, I think they can live out a good healthy life'.

Other individuals felt that it was our moral obligation to come up with a solution other than euthanasia, and that sterilizing and maintaining colonies through TNR could provide such an answer. As explained by two participants: 'TNR is…definitely more humane than euthanizing an animal, and so if we can curb the overpopulation and if you have dedicated colony caretakers that are willing to care for these cats, why would you euthanize them?' and 'we should be looking at more proactive ways of dealing with the issue, as opposed to, oh they're a nuisance, and we'll just trap and euthanize them. I think we have more and more responsibility as human beings to do something that is more pro-life'. For these reasons most participants from the animal welfare perspective believed that 'within the city our obligation is to provide a safe way that feral cats can live'.

Additionally, a number of conservationists indicated that they would be willing to tolerate feral cats in urban areas because they were unlikely to present a large threat to native species within these spaces. Participants explained: 'I think of feral cats as occurring in association with humans…I assume that threatened populations of animals don't really exist in super close association with people. And I guess that's why I think of feral cats as being less of an issue'; and

> In the urban environment…maybe they're fine because most of the things they're probably eating, at least live animal wise, are probably not native species anyways…if they can make a living on their own in an urban environment it seems like more power to them, let them eat pigeons and rats.

Generally, members of the conservationist group tended to feel that 'the further it is from wild areas probably the less I care'. This again supports the prominence of culture/nature dualisms in human-animal relations, with the ultimate goal of protecting pristine wilderness external to human-occupied spaces. Although urban spaces were most contentious, many participants were of the opinion that 'we need to somehow establish some way of accepting them as kind of part of the urban environment', echoing Wolch's (1996) call to acknowledge that 'subaltern animal towns' already exist around us.

Overall, although conflicting discourses variously depict feral cats as suffering abandoned pets in need of rescue, or invasive killing-machines in need of extermination, it became clear throughout interviews that preferences for feral cat management varied spatially. Participants often did not think a blanket solution for all

feral cats everywhere would be appropriate, thus providing potential for common-ground and compromise in the management of this contentious issue (for instance removal and relocation in high priority wildlife areas, and TNR and managed colonies in areas of low wildlife priority). These findings highlight that space matters in human-animal relations.

Beastly Cat Places

The key findings of our exploration into the beastly places of feral cats involve the discrepancies between participants' perceptions of feral lives and the realities that emerged in observations of colony cats and discussions with caretakers. A few of these discrepancies are discussed, followed by a description of two cases that exemplify these trends. Overall, our investigation into feral cat place-making highlights that when human perspectives alone are investigated and the experiences of non-humans are ignored, what results is a partial perspective that does not necessarily offer a robust or holistic understanding of the issue or context at hand (Hovorka, 2015).

Constructions of feral cat lives versus observations

Participants tended to make generalizations about the quality of life of feral cats, describing them as 'pathetic', 'rack of bones', 'mangy', and 'scrawny', noting anticipated health issues and poor longevity. Conversely there were very few signs of poor health in the approximately 100 cats observed. The overall body condition of cats appeared good with no signs of thinness or emaciation. Based on visual inspections, more cats were verging on overweight than underweight (see Figure 1a). Generally, coats appeared healthy, and there were no signs of weepy eyes or sneezing typical of upper respiratory infections common for cats living in high densities, or who are under stress (MacDonald, Yamaguchi, & Kerby, 2000). There were also no signs of present injury, for instance limping, cuts, or sores. However, one caretaker mentioned a cat having an eye removed because of infection, and a couple of cats were missing part of their tail. In these few instances of previous injury, the cats had healed and appeared to be otherwise healthy. It must be noted that these limited observations cannot be considered representative of feral cats in general. All visited colonies were managed, with food and shelter provided, and the majority of cats had been vaccinated and spayed or neutered. However, these data are still important as there is a marked contrast

between what one would imagine of feral cats characterized as ‘pathetic’ and ‘mangy’, and what was observed in visited colonies. They provide a caution against assumptions that feral cats cannot attain what many would consider an acceptable quality of life, particularly when living in a managed colony.

Another discrepancy involved ideas about feral cats’ living situations. Participants often envisioned lone cats skulking around dumpsters in alleyways or industrial areas. Contrary to these generalizations, colonies varied greatly in size and location. The smallest comprised 2 individuals and the largest approximately 100. Colonies were located in residential and industrial areas, in parking lots, backyards, golf courses, and parks (see Table 1). As one caretaker noted, ‘there is no typical feral situation’. In one colony three cats were living under an old transport truck in a parking lot (Figure 1b). Another large colony was located in the backyard of a mansion where the residents had cut a hole in their two-car garage door and would lay down mattresses and space heaters for the cats in the winter (Figure 1c). Despite this apparent discrepancy, the cats living under the transport truck appeared just as healthy as those living in the backyard. Most colonies contained shelters and feeding stations. Many shelters were large Rubbermaid bins with small entry holes containing straw and/or Styrofoam sheets for insulation (Figure 1d). At one colony, caretakers had repurposed a chicken coup as a shelter. In others there were ‘cat condos’, wooden, two-level, multi-unit dwellings that could house 4 to 10 cats. Some colonies contained covered, wooden boxes for food and water dishes. Overall, the observed diversity in colonies cautions against speaking of ‘feral cats’ as a uniform group, emphasizing the importance of considering specific contexts before making assumptions about cats’ lives and interests. This reinforces calls by animal geographers to attend to non-human difference and the diversity of lived-experiences of animals (Bear, 2011; Lulka, 2009; Philo, 2005).

Table 1. Description of visited colonies
[Insert Table 1]

Another noteworthy finding involves some of the common management solutions proposed in interviews, which emerged as more complex when the behaviours and experiences of the cats were also considered. Two such cases involve the desire to integrate feral cats into homes as pets, and the desire to relocate them to rural areas.

[Insert Figure 1]

Figure 1. Evidence of feral cat health and diversity. a. Healthy looking colony cats. b. Small colony living under a transport truck. c. Large colony in the backyard of a mansion (© [C. Patskou] Reproduced with permission). d. Homemade Styrofoam and Rubbermaid shelters.

Case 1: From feral to house pet

Many participants suggested that feral cats should be removed from their colonies, socialized, and adopted into homes. However, it became clear through observations and discussions with caretakers that while some cats may do well in human homes, others would not. For example, participants explained: 'You can tell pretty quickly who wants to be inside and who really doesn't and there's no point in fighting it if they don't want to be inside'; and

> I have friends who adopted a couple feral cats, but they just never saw them, hardly. They would put the food out, but they could hardly ever touch them. And in those situations I feel like they almost would have been better off back out in a colony rather than being in their house.

Caretakers emphasized that all cats are unique, and have different histories and inclinations that must be considered when making decisions about their futures. Caretakers frequently recounted stories of colony cats becoming increasingly human-social over time, which sometimes led to their being taken home as companions. For instance at one colony a caretaker pointed out a small grey tabby named Silver (Figure 2a) who had increasingly been choosing to engage with her. During the visit he eagerly approached the caretaker, rubbing against her legs and stretching his head up to be petted. The caretaker said she might bring Silver home and attempt to further socialize and find a home for him, but that she would 'see how it goes'. This suggests that if Silver did not do well, he would be placed back into his colony. Other caretakers took a similar approach, demonstrating the belief that not all cats belong in human homes.

As another example, one small colony contained several cats that had come from a hoarding situation. They were not sufficiently socialized to be adoptable by shelter standards. As a result, their caretaker decided to home them in one of her small urban colonies. The caretaker said they were doing much better in their new life outdoors, as evidenced though gaining weight and forming bonds with the other colony cats. This case is an illustration of what Holmberg (2014) describes as 'an interesting anomaly: the

feral cat that has been born in a home' (p. 63). It also demonstrates that some cats can be seen as belonging more in a feral colony than as companion animals, despite originating in a home. Although these examples still represent a human notion of belonging, they are founded on principles of attending to individual animals in terms of where they might be happiest.

Case 2: From urban feral to barn cat

Many participants also wanted to see feral cats relocated from urban colonies to rural areas. This was frequently described as a win-win situation wherein the cats would be safer, would not be nuisances, and could benefit farmers by providing rodent control. However, in discussion with caretakers it became clear that relocation is much more complicated than one might initially assume. Caretakers felt that 'it's hard relocating them', and 'relocating a colony should only be done under the rarest of circumstances', such as where the cats are in serious danger. They noted that when relocation is absolutely necessary, the whole colony should be moved together where possible because of the important social bonds between colony members. One caretaker explained:

> [Y]ou can't just take a feral cat and dump it into another colony…because not all the time when you take a feral cat to a barn will they stay. As soon as the barn doors open they're gone…they need to stay and make sure that they consider that their home. So when the barn doors do open, they're not like a bat out of hell and gone.

These sentiments were echoed in an interview with Karen Brownsey (personal communication, July 16, 2014), the director and founder of Barn Rats need Barn Cats Society. She explained that rehoming feral cats in barns can be very successful if they are under one year of age, or are 'truly homeless', meaning they do not belong to a particular colony. She said that colony cats older than one year will rarely consider a new area their home, and will almost always leave and try to make their way back to their colony. Despite such precautionary measures as relocating bonded colony mates together, or keeping cats in large dog crates within the barn for three to six weeks, the organization has had little success in relocating adult colony cats. There were stories of cats going missing, or being found dead on the side of the road kilometres from the farm to which they had been relocated.

These cases illustrate that strategies to place animals where we feel is best may not always be successful, and often this is because we are neglecting both their identities as differentiated individuals, and the potential for them to have place-attachments.

Feral Cat Place-Making

'They deserve to be there now that they've populated, they've homesteaded' (study participant)

The cases discussed in the preceding section illustrate the importance of attending to animal agency and connections to place. They raise interesting questions concerning what it might mean to think of feral cat colonies as homes. In exploring the place-making practices of feral cats, this paper employs a relational view of both place and agency. The meaning of 'place' is contested, but definitions include: 'locations with meaning' (Cresswell, 2008, p. 134), and 'relational, structured individual human-environment experiences' (Pierce, Martin, & Murphy, 2011, p. 60). While van Dooren and Rose (2012) agree that places are relationally constituted, they hold that they are 'materialized as historical and meaningful' (p. 2) to non-humans as well. Similarly, if place-making can be defined as 'the set of social, political and material processes by which people iteratively create and recreate the experienced geographies in which they live' (Pierce et al., 2011, p. 54), then non-human agency is surely relevant to such processes and experiences. As articulated by Dempsey (2010), 'agency is not an inherent attribute of something or someone; it does not flow from human autonomy or purpose or values, but rather is made in negotiations, alliances, and conflicts between a much wider array of actors, both human and non' (p. 1142). Feral cat agency is thus operationalized through relations, including: cat-cat, cat-human, and cat-landscape. It is this last relation that is the primary focus of this place-making exploration, though social dynamics are also relevant.

The question is, methodologically, how to analyze place-making in empirical case studies of non-humans. Van Dooren and Rose (2012) argue that 'in many cases [animals'] actions articulate a narrative of place and thus indicate the construction/inhabitation of a storied world', and their methodology is therefore centred on asking '[w]here do animals go, and what do they do?' (p. 5). We employ an

assemblage of evidence in order to investigate feral cat lifeworlds: scientific understandings of cat behaviour and ecology, anecdotal evidence from humans who spend the most time with feral cats (colony caretakers), as well as empirical data gathered in notes, photographs, and videos taken during visits to colonies. We contend that not only can cat-landscape relations be observed through actions and processes, but it is also possible to glimpse underlying affective dimensions of their place-attachments through individual stories.

Feral cat colonies are structured by philopatry, or attachment to place, meaning they exhibit site-fidelity (Liberg, Sandell, Pontier, & Natoli, 2000; Spotte, 2014). Home ranges are the areas in which individuals search for food, whereas territories are those that are defended by an individual from encroachment (Spotte, 2014). Although there is contention regarding the degree to which feral cats exhibit territoriality (Spotte, 2014), there is evidence that supports the establishment and enforcement of core areas, such as observations that there is very limited migration between colonies (Liberg et al., 2000). This trend was observed in this study in a residential area, where a caretaker had a small colony in her front yard and another in her backyard (Figure 2b). She lived in a semi-detached home in a condominium complex, and explained that the cats from the front yard never went around back, and vice versa. Individuals from the two colonies never mingled, and had been living as two proximate but separate feline units for years. It is also a commonly-held belief among caretakers that cats will generally not accept newcomers into their colonies. For instance, one caretaker said she had witnessed colony cats denying food access to new cats by preventing them from approaching feeding stations.

We can also think about place-making in terms of the material processes of embodied interactions with the landscape (van Dooren & Rose, 2012). Interactions observed in colony cats include tree scratching, and scent marking by rubbing the sides of their bodies, and especially facial glands, against ‘scent sticks’ (Tabor, 1983, p. 138) such as trees, shelters, and feeding stations (Figure 2c). During one colony visit, caretakers were constructing new shelters. They explained that the cats were extremely curious about any new features that appeared in the colony space, and were quick to explore and mark new items. There were scratches covering signs that had been affixed to trees by caretakers, and two black cats were observed exploring and interacting with wood and mesh screens that had recently been assembled into a climbing structure.

These actions coalesce in a narrative of getting to know a space, marking one's territory, and making a place one's home.

Although it is more challenging to present evidence of non-human place-attachments, there are several means through which such possibilities can be explored. Many colony caretakers discussed colonies as homes, for instance saying: 'this is their community', 'their sense of security', and, 'They have a place to go that they call home'. In terms of cat behaviour, biologists write that 'within the communal home range, the individual might have different favorite areas' (Liberg, 1980, p. 341), and 'certain spots were consistently identified as greater use areas, such as sunbathing nests' (Tabor, 1983, p. 65). Adding firsthand observations to this, it was noted that some cats would go to certain dishes, feeding stations, or shelters repeatedly, and not others. For instance, there were two separate feeding stations at one very large colony. The caretakers said that some cats would occupy one area and frequent one station, while others would frequent the second. These stations were only about ten metres apart, but cats seemed to demonstrate a preference for one or the other. From informal, or intuitive knowledge, many individuals with companion cats can likely think of favourite chairs or windowsills which seem important to our feline friends; why should we assume that feral cats would lack such preferences and attachments? Anecdotes recounted in the preceding section concerning feral cat relocation and homing also provide evidence of place-attachments. Surely the greatest demonstration of meaningful engagement with place is the desire to return to one's home, to seek it out when we find ourselves taken from it.

[Insert Figure 2]

Figure 2. More scenes of colony life. a. Silver eating out of the food bucket. b. The 'backyard colony'. c. Colony cat scratching a tree to which a scratch pad has been affixed by caretakers. d. Demolished warehouse that previously housed a colony.

This discussion of non-human place-making raises important questions with respect to feral cat vulnerability and ethical claims. Since they are rarely considered to be legitimate community-members, feral cats are frequently at risk from both intentional persecution such as poisoning or removal, and unintentional displacement by activities like construction or demolition. Seven of the 20 colonies visited in this study had been relocated, or were going to be in the near future due to some threat or

disturbance. One colony had inhabited an abandoned warehouse until its demolition, which left approximately 100 cats without a home in the middle of winter (Figure 2d). Colony caretakers had been forewarned, and were able to relocate the cats to an adjacent wooded area, constructing sufficient shelters so that, to their knowledge, none perished. The move did cause the cats stress, to the point that upper respiratory infections circulated within the colony, but dissipated following treatment with antibiotics. Though their old home now consists of an open, concrete-floored expanse with piles of rubble, cats still occupied this space. They wandered the area, bounding through the debris and perching on concrete blocks. Although they appear healthy in their new home, it is impossible to say how they were affected by this transition and the loss of what was, to many members of the colony, the only home they had ever known.

Although there are no easy solutions to these dilemmas, one practical finding of this study was the success in formalizing TNR as the appropriate response to feral cats in Toronto's Animal Control Bylaw. The bylaw states that 'Any feral cat may be spayed or neutered by the Executive Director *and subsequently released*' (City of Toronto, 2013, p. 4, emphasis added). The outcome of such legislation is that when community-members complain about the presence of feral cats in an area, if the cats are part of a registered colony in which TNR has taken place, they can be told that these cats are being managed as per the Animal Control Bylaw (E. Attard, personal communication, September 17, 2014). For this reason colony caretakers and key informants emphasized that bylaws can legitimize feral colonies' occupations of public spaces, and support the work of caretakers within the community.

At a deeper level, what is required is a recognition of the ethical claims to space presented by non-humans who engage in place-making practices and develop place-attachments. Barua (2014), following Ingold (2011), discusses the 'inversion' that takes place when inhabitation becomes conceptualized as merely occupation. Conceiving of beings as occupants rather than inhabitants advances an understanding of 'a world already built' (Ingold, 2011, p. 147), rather than acknowledging the processes of 'place-binding' through which we actively dwell. The politics of inversion in this case are based on an objectification of non-humans that renders them passive occupants of habitats, rather than minded subjects and inhabitants of meaningful homes. This objectification of animals is maintained most obviously in the interests of commercial animal exploitation industries, where any questioning of the ethical claims of animals

presents a threat. More subtly, and exemplified clearly in the cases of animals labelled as ‘alien’, ‘invasive’, or ‘feral’, such understandings are reproduced by dominant holistic knowledge systems that focus on animals as merely parts of a large whole, cogs in a machine discussed only in terms of their functional roles within ecosystems. These systems of thought direct our attention to such features as the ‘greater good’ of ecosystem health and biodiversity preservation, and away from encountering animals as unique beings who matter in their own right. These biopolitical operations have been described in the literature (e.g., Darier, 1996, 1999; Luke, 1995, 1999; Rinfret, 2009; P. Rutherford, 1999; S. Rutherford, 2007), and can be seen operating in the discourses which invert feral animals’ inhabitation into occupation, ultimately making them ‘killable’ (Haraway, 2008). What is needed then is a balancing of ethical claims and interests of all sentient beings found in a particular locale – here feral cats, humans, birds, rodents, etc. – and recognition and incorporation of their various place-making practices and attachments to place into local management schemes.

Conclusion

Overall, the results of interviews demonstrate that the discursive constructions of feral cats are based strongly on domestic/wild and culture/nature dualisms. Feral cats are still thought of as animals ‘of people’, and are therefore seen to belong as our companion or working animals, and not as living independent existences, polluting pristine nature, or existing as animals ‘of place’. Notions of belonging are also influenced by assumptions about feral cats’ quality of life. However, investigations into their beastly places provided evidence of health and connection to colony spaces. Observations demonstrated a large diversity in possible living situations, cautioning against treating feral cats as a uniform group and homogenizing their experiences. The results of this study further illustrate that strategies to place animals may not always succeed, often as a result of our failure to acknowledge their identities as differentiated individuals and the potential for them to have place-attachments. In terms of insights into the management of feral cats, our findings that management preferences varied spatially present opportunities for compromise between polarized interests. Additionally, Toronto’s formalization of TNR and registered colonies in its Animal Control Bylaw represents a step towards legitimizing free-living cats’ claims to space. On a deeper level, in order to challenge the inversion of inhabitation into occupation (Barua, 2014; Ingold, 2011), we must encounter non-humans as minded subjects actively dwelling in

places filled with history and meaning. If we reject nature/culture and domestic/wild dualism, take non-human agency seriously, and encounter animals as subjects of their own lifeworlds, it becomes our responsibility to find new ways of 'sharing and co-producing meaningful and enduring multispecies cities' (van Dooren & Rose, 2012, p. 19).

This paper represents a modest study of a very complex human-animal entanglement. It necessarily omits much of the messiness of these interactions. Our research attempts to continue the trend within the social sciences of moving beyond discursive, human representational accounts of animals. Hopefully, this research will contribute to future work in animal geography and related disciplines that attempt to engage empirically with animals through observational studies and secondary anecdotal evidence in order to critically explore their beastly places. By engaging with non-human place-making practices we hope to promote the recognition of animals as not only participants in more-than-human socio-spatial processes, but as inhabitants of personally meaningful homes.

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References

Angier, N. (2013, January 29). That Cuddly Kitty Is Deadlier Than You Think. *The New York Times.* Retrieved from http://www.nytimes.com/2013/01/30/science/that-cuddly-kitty-of-yours-is-a-killer.html?_r=0

Ash, S. J., & Adams, C. E. (2003). Public Preferences for Free-Ranging Domestic Cat (*Felis catus*) Management Options. *Wildlife Society Bulletin*, 31, 334–339. http://www.jstor.org/stable/3784311

Barua, M. (2014). Bio-geo-graphy: landscape, dwelling, and the political ecology of human-elephant relations. *Environment and Planning D: Society and Space*, 32, 915−934. doi:10.1068/d4213

Bear, C. (2011). Being Angelica? Exploring Individual Animal Geographies. *Area*, 43, 297−304. doi: 10.1111/j.1475-4762.2011.01019.x

Birke, L. (2014). Escaping the maze: Wildness and tameness in studying animal behaviour. In G. Marvin & S. McHugh (Eds.), *Routledge Handbook of Human-Animal Studies* (pp. 39−53). New York, NY: Routledge.

Blancher, P. (2013). Estimated Number of Birds Killed by House Cats (*Felis catus*) in Canada. *Avian Conservation and Ecology*, 8(2), 3. doi: 10.5751/ACE-00557-080203

Buller, H. (2015). Animal geographies II Methods. *Progress in Human Geography*, 39, 374−384. doi: 10.1177/0309132514527401

Centonze, L. A., & Levy, J. K. (2002). Characteristics of free-roaming cats and their caretakers. *Journal of the American Veterinary Medical Association*, 220, 1627−1633. doi: 10.2460/javma.2002.220.1627

Chambers, C. N., & Main, M. E. (2014). Between "Wild" and "Tame": Placing Encounters with Sirocco the Kakapo Parrot in Aotearoa/New Zealand. *Society & Animals*, 22, 57−79. doi: 10.1163/15685306-12341319

City of Toronto, Municipal Code Chapter 349, Animals. June 13, 2013.

Costall, A. (1998). Lloyd Morgan and the Rise and Fall of Animal Psychology. *Society and Animals*, 6, 13−29. doi: 10.1163/156853098X00023

Cox, G., & Ashford, T. (1998). Riddle Me This: The Craft and Concept of Animal Mind. *Science, Technology, and Human Values*, 23, 425−438. doi: 10.1177/016224399802300404

Cresswell, T. (2008). Place: encountering geography as philosophy. *Geography*, 93, 132−139. http://www.jstor.org.subzero.lib.uoguelph.ca/stable/40574276.

Dabritz, H. A., Atwill, E. R., Gardner, I. A., Miller, M. A., & Conrad, P. A. (2006). Outdoor fecal deposition by free-roaming cats and attitudes of cat owners and nonowners toward stray pets, wildlife, and water pollution. *Journal of the American Veterinary Medical Association*, 229, 74−81. doi: 10.2460/javma.229.1.74

Darier, E. (1996). Environmental governmentality: the case of Canada's green plan. Environmental Politics, 5, 585−606. doi: 10.1080/09644019608414294.

Darier, E. (1999). Foucault and the environment. In Darier, E. (Ed.), *Discourses of the Environment* (pp. 1−33). Malden, PA: Blackwell.

Dempsey, J. (2010). Tracking grizzly bears in British Columbia's environmental politics. *Environment and Planning A*, 42, 1138−1156. doi: 10.1068/a42214

Foley, P., Foley, J. E., Levy, J. K., & Paik, T. (2005). Analysis of the impact of trap-neuter-return programs on populations of feral cats. *Journal of the American Veterinary Medical Association*, 227, 1775−1781. doi: 10.2460/javma.2005.227.1775

Griffiths, H., Poulter, I., & Sibley, D. (2000). Feral cats in the city. In C. Philo & C. Wilbert (Eds.), *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations* (pp. 56−70). London, UK: Routledge.

Haraway, D. (2008). *When Species Meet*. Minneapolis, MN: University of Minnesota Press.

Hardy, C., Harley, B., & Phillips, N. (2004). Discourse Analysis and Content Analysis: Two Solitudes? *Qualitative Methods*, 2(2), 19−21.

Hodgetts, T., & Lorimer, J. (2015). Methodologies for animals' geographies: cultures, communication and genomics. *Cultural Geographies*, 2, 285−295. doi: 10.1177/1474474014525114

Holmberg, T. (2014). Wherever I lay my cat? Post-human crowding and the meaning of home. In Marvin, G., & McHugh, S. (Eds.). *Routledge Handbook of Human-Animal Studies* (pp. 54−67). New York, NY: Routledge.

Houle, K. L. (2013). *Responsibility, Complexity, and Abortion: Toward a New Image of Ethical Thought.* New York, NY: Lexington Books.

Hovorka, A. J. (2008). Transspecies urban theory: chickens in an African city. *Cultural Geographies*, 15, 95−117. doi: 10.1177/1474474007085784

Hovorka, A. J. (2015). The Gender, Place and Culture Jan Monk Distinguished Annual Lecture: Feminism and animals: exploring interspecies relations through intersectionality, performativity and standpoint. *Gender, Place & Culture*, 22, 1−19. doi: 10.1080/0966369X.2014.993546

Hutson, K. D. (2011). Ordering the Feral Cat: Stakeholder Perspectives on Cat Overpopulation (Unpublished senior honors thesis). The Ohio State University, Columbus, OH.

Ingold, T. (2011). *Being alive: Essays on movement, knowledge and description*. New York, NY: Taylor & Francis.

Jessup, D. A. (2004). The welfare of feral cats and wildlife. *Journal of the American Veterinary Medical Association*, 225, 1377−1383. doi: 10.2460/javma.2004.225.1377

Jickling, B., & Paquet, P. C. (2005). Wolf Stories. *Environmental Ethics*, 27, 115−134. doi: 10.5840/enviroethics200527226

Johnston, C. (2008). Beyond the clearing: towards a dwelt animal geography. *Progress in Human Geography*, 32, 633−649. doi: 10.1177/0309132508089825

Kristeva, J. (1982). *Powers of horror: An Essay on Abjection.* (L. S. Roudiez, Trans.). New York, NY: Columbia University Press.

Lavau, S. (2011). The nature/s of belonging: performing an authentic Australian river. *Ethnos*, 76, 41−64. doi: 10.1080/00141844.2010.537758

Levy, J. K., & Crawford, P. C. (2004). Humane strategies for controlling feral cat populations. *Journal of the American Veterinary Medical Association*, 225, 1354−1360. doi: 10.2460/javma.2004.225.1354

Levy, J. K., Gale, D. W., & Gale, L. A. (2003). Evaluation of the effect of a long-term trap-neuter-return and adoption program on a free-roaming cat population. *Journal of the American Veterinary Medical Association*, 222, 42−46. doi: 10.2460/javma.2003.222.42

Levy, J. K., Woods, J. E., Turick, S. L., & Etheridge, D. L. (2003). Number of unowned free-roaming cats in a college community in the southern United States and characteristics of community residents who feed them. *Journal of the American Veterinary Medical Association*, 223, 202−205. doi: 10.2460/javma.2003.223.202

Liberg, O. (1980). Spacing patterns in a population of rural free roaming domestic cats. *Oikos*, 35, 336−349. doi: 10.2307/3544649

Liberg, O., Sandell, M., Pontier, D., & Natoli, E. (2000). Density, spatial organization and reproductive tactics in the domestic cat and other felids. In D. C. Turner & P. P. Bateson (Eds.). *The domestic cat: The biology of its behaviour* (2nd ed.) (pp. 119−147). Cambridge, UK: Cambridge University Press.

Longcore, T., Rich, C., & Sullivan, L. M. (2009). Critical assessment of claims regarding management of feral cats by trap-neuter-return. *Conservation Biology*, 23, 887−894. doi: 10.1111/j.1523-1739.2009.01174.x

Lord, L. K. (2008). Attitudes toward and perceptions of free-roaming cats among individuals living in Ohio. *Journal of the American Veterinary Medical Association*, 232, 1159−1167. doi: 10.2460/javma.232.8.1159

Loyd, K. A. T., & DeVore, J. L. (2010). An evaluation of feral cat management options using a decision analysis network. *Ecology and Society*, 15(4). http://www.ecologyandsociety.org/vol15/iss4/art10/

Loyd, K. A. T., & Miller, C. A. (2010). Influence of demographics, experience and value orientations on preferences for lethal management of feral cats. *Human Dimensions of Wildlife*, 15, 262−273. http://dx.doi.org/10.1080/10871209.2010.491846

Luke, T. W. (1995). On environmentality: Geo-power and eco-knowledge in the discourses of contemporary environmentalism. *Cultural Critique*, 31, 57−81. doi: 10.2307/1354445

Luke, T. W. (1999). Environmentality as green governmentality. In E. Darier (Ed.), Discourses of the Environment (pp. 121−151). Malden, PA: Blackwell.

Lulka, D. (2009). The residual humanism of hybridity: retaining a sense of the earth. *Transactions of the Institute of British Geographers*, 34, 378−393. doi: 10.1111/j.1475-5661.2009.00346.x

MacDonald, D. W., Yamaguchi, N., & Kerby, G. (2000). Group-living in the domestic cat: its sociobiology and epidemiology. In D. C. Turner & P. P. Bateson (Eds.). *The domestic cat: The biology of its behaviour* (2nd ed.) (pp. 95−118). Cambridge, UK: Cambridge University Press.

Notzke, C. (2013). An exploration into political ecology and nonhuman agency: The case of the wild horse in western Canada. *The Canadian Geographer/ Le Géographe canadien*, 57, 389−412. doi: 10.1111/cag.12028

Nutter, F. B., Stoskopf, M. K., & Levine, J. F. (2004). Time and financial costs of programs for live trapping feral cats. *Journal of the American Veterinary Medical Association*, 225, 1403−1405. doi: 10.2460/javma.2004.225.1403

Paramaguru, K. (2013, January 31). The Biggest Threat to U.S. Wildlife? Cats. *Time*. Retrieved from http://newsfeed.time.com/2013/01/31/the-biggest-threat-to-u-s-wildlife-cats/

Phillips, N., & Hardy, C. (2002). *Discourse Analysis: Investigating Processes of Social Construction*. Sage University Papers Series on Qualitative Research Methods, Vol. 50. Thousand Oaks, CA: Sage.

Philo, C. (1998). Animals, Geography, and the City: Notes on Inclusion and Exclusion. In: J. Wolch & J. Emel (Eds.), *Animal Geographies: Place, Politics and Identity in the Nature-Culture Borderlands* (pp. 51−71). London: Verso.

Philo, C. (2005). Spacing lives and lively spaces: partial remarks on Sarah Whatmore's Hybrid Geographies. *Antipode*, 37, 824−833. doi: 10.1111/j.0066-4812.2005.00529.x

Philo, C., & Wilbert, C. (2000). Animal Spaces, Beastly Places. In C. Philo & C. Wilbert (Eds.), *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations* (pp. 1−34). London: Routledge.

Pierce, J., Martin, D. G., & Murphy, J. (2011). Relational place-making: the networked politics of place. *Transactions of the Institute of British Geographers*, 36, 54–70. doi: 10.1111/j.1475-5661.2010.00411.x

Power, E. R. (2008). Furry families: making a human–dog family through home. *Social & Cultural Geography*, 9, 535−555. doi: 10.1080/14649360802217790

Power, E. R. (2009). Border-processes and homemaking: encounters with possums in suburban Australian homes. *Cultural Geographies*, 16, 29-54. doi: 10.1177/1474474008097979

Rinfret, S. (2009). Controlling animals: power, Foucault, and species management. *Society and Natural Resources*, 22, 571−578. doi: 10.1080/08941920802029375

Robertson, S. A. (2008). A review of feral cat control. *Journal of Feline Medicine and Surgery*, 10, 366−375. doi: 10.1016/j.jfms.2007.08.003

Rutherford, P. (1999). The entry of life into history. In E. Darier (Ed.), *Discourses of the Environment* (pp. 37−62). Malden, PA: Blackwell.

Rutherford, S. (2007). Green governmentality: insights and opportunities in the study of nature's rule. *Progress in Human Geography*, 31, 291−307. doi: 10.1177/0309132507077080

Scott, K. C., Levy, J. K., & Crawford, P. C. (2002). Characteristics of free-roaming cats evaluated in a trap-neuter-return program. *Journal of the American Veterinary Medical Association*, 221, 1136−1138. doi: 10.2460/javma.2002.221.1136

Spotte, S. (2014). *Free-ranging Cats: Behavior, Ecology, Management*. Chichester, UK: John Wiley & Sons.

Stoskopf, M. K., & Nutter, F. B. (2004). Analyzing approaches to feral cat management—one size does not fit all. *Journal of the American Veterinary Medical Association*, 225, 1361−1364. doi: 10.2460/javma.2004.225.1361

Tabor, R. K. (1983). *The Wild Life of the Domestic Cat*. London, UK: Arrow Books Limited.

Thompson, C. (2012). The Contested Meaning and Place of Feral Cats in the Workplace. *Journal for Critical Animal Studies*, 10(4), 78−108.

van Dooren, T., & Rose, D. B. (2012). Storied-places in a multispecies city. *Humanimalia*, 3(2), 1–27.

Walker, T. (2013, January 30). 'Stone-cold serial killers': Domestic cats slaughter billions upon billions of animals in US every year. *The Independent.* Retrieved from http://www.independent.co.uk/news/world/americas/stonecold-serial-killers-domestic-cats-slaughter-billions-upon-billions-of-animals-in-us-every-year-8473643.html

Winter, L. (2004). Trap-neuter-release programs: the reality and the impacts. *Journal of the American Veterinary Medical Association*, 225, 1369–1376. doi: 10.2460/javma.2004.225.1369

Wolch, J. (1996). Zoöpolis. *Capitalism, Nature, Socialism*, 7(2), 21–47. doi: 10.1080/10455759609358677

Wolch, J., West, K., & Gaines T., (1995). Transspecies Urban Theory. *Environment and Planning D: Society and Space*, 13(5), 735–760. doi: 10.1068/d130735

Yeo, J., & Neo, H. (2010). Monkey business: human–animal conflicts in urban Singapore. *Social & Cultural Geography*, 11, 681–699. doi: 10.1080/14649365.2010.508565