Dissertation Proposal

Assembling the bird(er):the multiple acts of birding

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Research purpose

Bird-watching remains one of the few ways that people have direct experiences with wild animals. Participation in the act of birding is a kind of education which subtly shapes and reinforces participants' perspectives of the birds they watch, the environments they watch them in, and how they come to value both. Research reveals that birding is the fastest growing single outdoor activity (Cordell & Herbert, 2002) and recent survey results have reported that nearly one third of North American adults consider themselves birdwatchers (A. Scott, 2004). I am drawn to research this activity because on the surface, it seems like an ideal way for humans to learn more about the "more-than-human" (Abram, 1996) world. More-than-human engages with the notion that our relationship to the world is a sensuous one—where we "exchanged possibilities with every flapping form, with each textured surface and shivering entity that we happened to focus on." (Abram, 1996, p. ix)

Stephen Jay Gould wrote of the importance of "forging an emotional bond between ourselves and nature as well—for we will not fight to save what we do not love" (1993, p. 40). While this may be a seen as a particularly romantic aspiration, learning to see agency and subjectivity in both the living and non-living world is an area of inquiry worth further study. In this research agency is not considered a cognitive capacity. More accurately it is an "emotive and embodied" (Law, 2004a, p. 3) effect "generated by…interacting components whose activity is constituted in the networks of which they are a part" (Whatmore, 1999, p. 28).

As a consequence, the universe is filled with activity rather than being filled with dualist separations of active subjects and passive objects. Thus a subject's experience, perception and interpretation of the world, or subjectivity, is no longer solely attributable to humans but is located within a multitude of actors. Significantly, this has implications for how we come to think and act towards that which is typically cast as non-human.

Following Gould's logic and applying it to my dissertation topic, if a human being is going to engage in such concepts as bird conservation, biodiversity and animal agency, I would like to suggest that meaningful engagement with those concepts does

not begin and end there. Rather, as I have previously described (Watson, 2006), human beings would appear to need to begin with some kind of awareness about birds which, in turn, *may* lead to some kind of understanding of, and connection to birds.

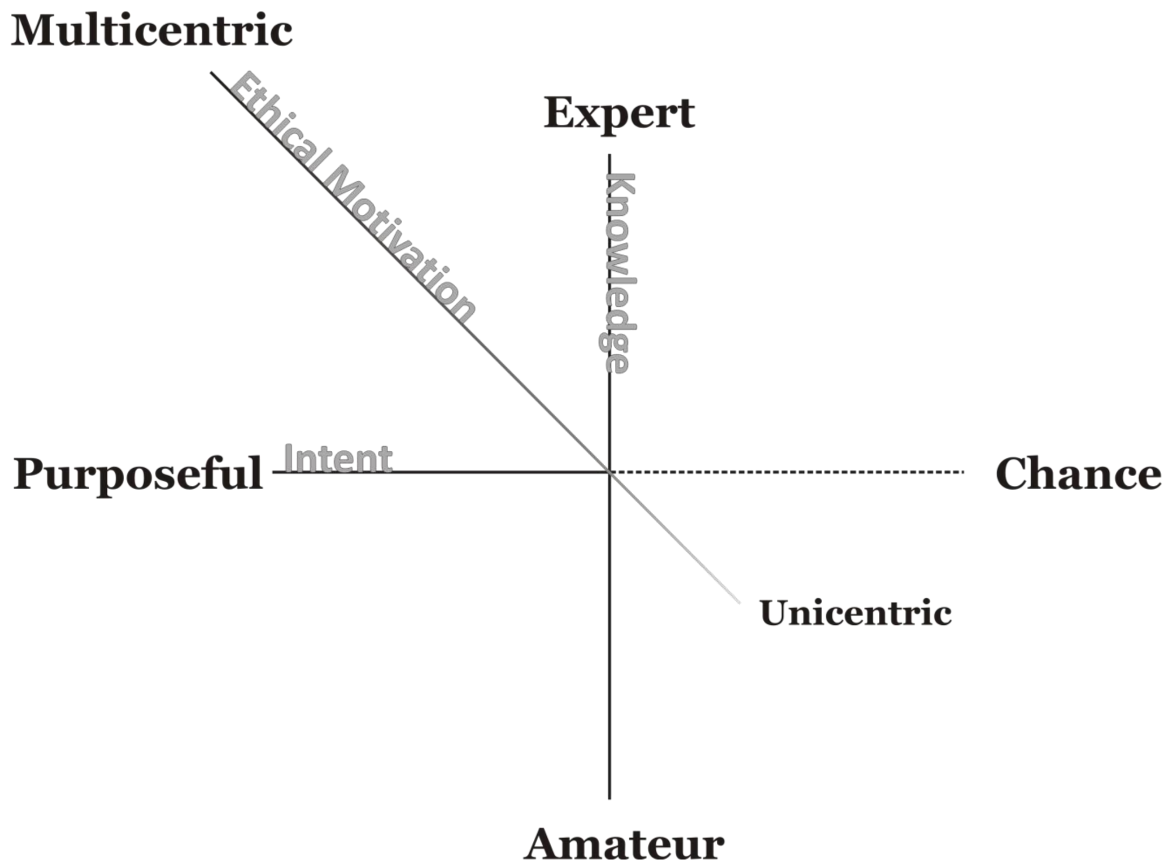

Figure 1: The proposed octants of birding practice

Framing bird-watching as a kind of environmental education is one entry into my work. Asking what birders are learning about birds, and in turn, the more-than-human world is important because it will help answer just what kind of education this activity is. I write "kind of education" because I do not want to view birding uncritically as "all good" (a perspective shared, especially by those that are deeply involved in the activity, see Kaufman (2006) for such an example). People that are attracted to birding are not a homogeneous group; they can range from so-called "life-listers," or "twitchers" who travel the world in the hopes of ticking off another exotic species from their list, to "backyard birders" who have intimate, local knowledge of their backyard birds but may not know what is beyond the edges of their neighbourhood. In my experience, birding

includes many "subsets" of practice. For the purposes of this proposal, I offer a model[1] (Figure 1, above) presenting the different subsets of birding as I currently conceive of them.

There are three axes to this model, one referring to the level of knowledge (expert-amateur) that the birder holds, the second referring to the intentionality of the act associated (purposeful-chance) with seeing or hearing the bird and the third referring to the underlying ethical alignment (multicentric-unicentric) that is exhibited in the act of bird watching.

With the notion of many acts of birding and many kinds of birders engaging unevenly with the more-than-human world, I am designing my Ph.D. research and dissertation to lead towards two larger outcomes:

- a focus on the ontological politics of birding and
- a contribution to new methodological approaches in animal studies inspired by Law's (2004a) call for method.

In a larger sense, while my dissertation *will* be about birding, birders and birds it will also engage with an ontological perspective of the world. This perspective forwards the assertion that objects are enacted: enactment, in this sense, is the claim "relations, and so realities and representations of realities...are being endlessly or chronically brought into being in a continuing process of production and reproduction, and have no status, standing or reality outside those processes" (Law, 2004a, p. 159). Enactment is different that constructivism as it does not "imply convergence to singularity," in opposition to the fixing of objects' identities, "but takes difference and multiplicity to be chronic conditions" (Law, 2004a, p. 158). Difference suggests that multiple versions of the same object can exist simultaneously—this occurs because while objects are enacted in practice, these practices can be different. If the practices are different, then so too must be the objects (Law, 2004a). Yet these multiple versions—or multiple objects—are, more often than not, able to cohere together. So, if these coherences shape our reality, then reality:

[1] To help interpret the figure, it is meant to be a three-dimensional object, with an x, y & z axis. The ethical motivation (or z) axis, represented as a 45° angle on this flat two-dimensional figure, should be seen as a line projecting into and out of space, following the conventions of linear perspective.

is not in principal fixed or singular, and truth is no longer the only ground for accepting or rejecting a representation. The implication is that there are various possible reasons, including the political, for enacting one kind of reality rather than another, and that these grounds can in some measure be debated. This is ontological politics. (Law, 2004a, p. 162)

What does the multiple object mean for birdwatching? I use the term enactment to describe birding as an activity that through its practice makes and remakes itself. In other words, birding is a dynamic practice that changes its "shape" given a particular set of actors in a particular context. The significance of thinking about birding this way lies in the multiple ways people interact with birds, birds with people and both birds and people with the landscape. The importance of this research is not in uncovering and cataloguing what kinds of bird-watching-acts are out there, rather, it is about what might be made in the relations of "watching" birds; what is brought into being through the various enactments. Birding is a form of inter-species sociality and a kind of intervention in the always-social nature of the world. Thus, if these engagements between people, birds and place, called "birding," occur in more than one way, or in multiple ways, then I am suggesting that these enactments can also be conceived of as a multiple object.

This research becomes more than an ethnography of bird-watching: in asking what practices of birding are *good* or which practices *ought* we to be enacting, I can turn my attention to current enactments and ask: "*Ought* they be enacted in this way?" and "Do they have the *good* of the bird, or landscape, in mind?" In this respect, this project promises to be a potent investigation of both the practice and the ethics inherent in these assemblages.

Central research question

The central question that I seek to explore in my dissertation is: how the enactments of birding—understood as the varied assemblages of practice that include humans, birds, landscape and objects—shape our perspectives of and relationships to the more-than-human? As a consequence of investigating this question, the following associated inquires act as corollaries:

- How is birding an exercise in environmental ethics?

- How is birding an exercise in environmental learning?
- How do the technologies of birding shape (or how have they shaped) the way we see these organisms and the landscapes they occupy?
- Is birding an activity of hope, marking one of our culture's significant inter-species connections, or one of irony, marking the loss of bird numbers and species diversity (for the perils migratory birds face, see Stutchbury, 2007) while, at the same time, remaining oblivious to it?

Research positionality: Ethical alignments and assumptions

The following are the ethical beliefs and assumptions that underlie my dissertation topic, research interests and own personal ethic.

I am a naturalist. Rather than calling myself a birder, I call myself a naturalist. Key, for me, in this label is the sense of wonder (Carson, 1956) I feel for the more-than-human world. Yet, I am not a naturalist interested in reinforcing or reproducing colonial practises (collecting and naming as a projection of power, for example) of natural history. For me, being a naturalist is about uncovering, recognizing and constructing relationships. I agree that natural history is "not just the accumulation of facts, but is the layering of stories in which personal experience, social interactions and locality give both order and meaning to nature." (Brookes, 2002, p. 77) As such, I am more aligned with investigating how acts of natural history can be a disruptive force (Quinn, 1995a) in re-defining typical, Western relationships with the natural world. Being a naturalist involves a personal curiosity about what surrounds; it also engages with a larger philosophical notion that I hold: the living beings (and their non-living support) that surrounds has inherent value and worth. These decisions about value and worth, however, are contextual: what applies as being "good" in one place and time may not necessarily be the case elsewhere. This means that sustained attention to place and organisms is required to help make those ethical judgements.

Agency does not solely operate within the human sphere. Bird agency matters to me, and I intend to take this into account in my research by observing and including birds in field notes and journal. Beyond birds, both living and nonliving components of the world can be agents. I am interested in investigating how agency operates and its implications for how we come to know these agents.

Nature is a distinctly social place. If being a naturalist is about relationships, John Livingston (1983) expands on the notion of what kinds of relationships can exist when he writes about the being of a singing bird. The bird's song creates a membrane of "extended being" lager than the bird's physical entity. More importantly, Livingston suggests that "everything contained in that envelope—all the plants, all the animals—are in the most real and literal sense built into [the bird's] being." (1983, p. 68) This notion of permeable membranes and the subsequent implications for beings and sociality not only relates directly to the criticism of the human/non-human dichotomy, but is also visible in my practice as a naturalist. Throughout my work I use the term "more-than-human" rather than "non-human." I do this for two reasons: the first as an attempt to address the innate sociality of the world and the second is to move beyond the binary of the non-human. Non-human suggests that judgements are always to be made in relation to us: this anthropocentric notion ignores our place within a wider set of relations and prioritizes a polarizing way of engaging with the world. By addressing that we interface with the world with more than one sense, in more than one way (and others in ways that are imperceptible to us) I believe that it creates a reflexive, generative space with which to engage the world.

Theoretical framework

In dominant Western culture, human beings' understanding of nature is one that is seen as separate and distinct from that of our everyday life and experience. Val Plumwood echoes this when she argues that the typical view of nature is "hyper-separate" and "lacking continuity with the human" (2002, p. 107). Typical experiences of observing wild animals highlight this duality. Encounters involve travelling to a

wilderness, often conceptualized as devoid of humans (Cronon, 1995), where the experience is centred around seeking and seeing the animal in its own habitat under authentic conditions. The historical creation of a natural world, as described by Evernden (1992), generated a dualism between nature and culture, one which continues to cause an ambivalent relationship to the more-than-human. Evernden argues against this dualism, writing:

> Once we accept, through the study of Nature, that all life is organically related, organically the same through the linkage of evolution, then humanity is literally a part of Nature. Not figuratively, not poetically, but literally an object like other natural objects...We cannot reject it without exposing the fiction at the core of dualism. (1992, p. 93)

Echoing Evernden's dissolution, I subscribe to an understanding of a continuum, where life is intrinsically related and in turn connects to the abiotic environment. Where there was a dualism there can now be difference: "no longer a matter of different perspectives on a single object but the enactment of different objects in the different sets of relations and contexts of practice" (Law & Singleton, 2005, p. 342). Local knowledge is then produced within a mediating web of relations and is, at best, a partial perspective (Haraway, 1991). No longer is there a singular, monolithic nature; the concept of difference suggests that each of us enacts a set of relations unique to our own experiences and context. Enactments then, create multiple assemblages of nature, where humans can no longer be hyper-separate from the world they inhabit (Latour, 1993). What once appeared as *ipso facto* realities are, in fact crafted (Law, 2004a). These assemblages can be called "naturecultures" (Law, 2004b).

Mol (2002) proposes that the word enact suggests that "activities take place—but leaves the actors vague" (p. 33) which is an important difference from performing a reality. A performance metaphor, for example, can mean that there is a backstage—a place where "real reality is hiding" (Mol, 2002, p.33), suggesting an underlying epistemological perspective. Rather, it is best to focus on the uncertain *practices* of our daily life that are made of bodies and objects in specific relation and context. As such, there is no real singular, independent, objective reality, rather, there are:

> different and valid knowledges that can be neither entirely reconciled nor dismissed, and suggests that knowing is or might properly be, a process that is also decentered, distributed, but also partially connected. The logic of

> juxtaposition renders it inappropriate, even impossible, to draw things together into singularity. (Law, 2002, p. 197)

Objects have gained prominence and importance in my own work in response to recent work (Law, 2002, 2004a; Law & Singleton, 2005; Urry, 2000) that attempts to look at the ability of social science research methods to engage with what are described as complex and messy objects. As defined by Law and Singleton (2005), objects are treated as patterns of discontinuity between absence and presence and are less concrete than ever before. Objects are now used to describe the messy, multifaceted and multiple realities that are performed and experienced. Thus, Law and Singleton evoke the metaphor of the iceberg to describe objects: the visible tip represents the immutable attributes of an object, while much more goes on, invisibly, below the waterline. In the ontological turn, the investigation of how objects are enacted into being (or how the tip becomes visible) and the implications of that enactment gain central importance. Erica Fudge, writing in the field of animal studies, makes a strikingly similar argument when she writes:

> By simultaneously using and laying bare the concept of 'animal' as a cover-all for a disconcertingly wide range of relations, I hope to have underlined the discomfort, the variety and the limitations of those relations. And from this, perhaps, it is not only the concept, but the lived relations that might come under scrutiny. (2002, p. 165)

To contemplate the bird as more than the simple focus of an activity requires an interrogation of the conventional understanding of just what a bird *is*. This query, applied more generally to those organisms conventionally understood as animals has also been taken up by scholars in the field of animal studies. Answering this "question of the animal" or as Wolfe puts it: "the relationship between … the discourse of animality—the use of that constellation of signifiers to structure how we address others of whatever sort (not just non-human animals)—and the living and breathing creatures who fall outside the taxonomy of *Homo sapiens*." (2003, p. XX) has become a key question with implications for my own work. Attempting to answer this question requires a method of inquiry that sufficiently addresses the agency of animals (and the rest of the more-than-human world) and the permeability of the borders most typically rendered as impervious.

John Livingston wrote that “individual self, group self, and community self in wild (whole) beings should not be constructed as mutually exclusive” (1994, p. 114). Livingston goes on to suggest that we have the power to possess “simultaneous access, if we will it, to all four states of self-conscious: individual, group, community and planetary” (1994, p. 118). I see the notion of a “biospheric self” (Livingston, 1994, p. 116) and reciprocity towards nature to be inclusive: everything has the power to become an agent. It is easy to see how the living things on this planet could be considered nature since they actively seem to give and take.

Animal studies in engaging with the question of the animal needs to ground answers to such questions in situated knowledge (Haraway, 1991). I would suggest that the practice of a contemporary natural history, contextualized as “a set of socio-spatial practices through which relationships between nature and society are defined” (Davies, 2000, p. 244) is one way of situating oneself. Wolch makes the argument that urban ecological work needs to be augmented by a tool kit rich in “ethnographic accounts of animals, personal narratives of nonscientific observers , and folklore” (1998, p. 131); this can be seen as a part of contemporary natural history practice and a good starting place to breech the human/animal divide.

Natural history as a culturally and historically diverse practice is not unproblematic. For example, cast historically, as symbolized by the acts of 19th century men such as Darwin, the act of a Western natural history can be called colonial and a projection of a certain kind of power. I would like to suggest, however, that the practice of natural history, “as a complex, contested and changing network of practices, associated with defining and structuring the borders between the human and non-human worlds” (Davies, 2000, p. 244), is significantly different that the 19th century practice and continues to be relevant.

Natural history is relevant, in part, because how we answer the question of the animal shapes our moral obligations towards them. Writing in *Zoontologies*, it seems as though Wolfe is suggesting that we need to develop an ethics where duty is not based in “a shared form of life” (2003, p. 8). Rather, duty should be developed in a setting where awareness of the other is in recognition of the “dangers of ethnocentric self-privileging” (2003, p. 8), where a sphere of consideration is not limited by “its *own* concepts, its *own* forms of life” (2003, p. 9, author's emphasis). Rod Preece writes that, problematically,

ethical consideration of the animal appears to always be relation to the human (2005). Preece goes on to argue that in deciding the moral status of animals, life should be used as the "sole relevant criteria" (2005, p. 370).

While perhaps valuable in drawing attention to the problems of ascription to an (arguably arbitrary and human-centered) notion of speciation, the "life-only" perspective does have limitations: for example, how do we enter into ethical relationships that take into account the environment of a living being? How do you consider the American Kestrels (*Falco sparverius*) nesting on the York campus without considering that these birds nest on the side of Scott building? The abiotic, problematically, appears to be cast aside, or assumed within *animal* in this viewpoint. This is where a larger focus on the hybridity of nature and society and the ambiguity of an actor's location along the human more-than-human continuum should offer a framework to engage with the questions I have raised here. Actor-network theory (ANT) offers a perspective on these larger issues.

ANT, used as a critical tool against notions "as diverse as institution, society, nation-state and, more generally any flat surface" (Latour, 1999, p. 15), attempts to investigate the role that objects play in the creation of networks of relations. With headwaters in sociology, science and technology studies (STS), post-modernism and philosophy, early works in the field of ANT began to emerge in the late 1980s and early 1990s. Early ANT thinking was directly impacted by work done in the Science and Technology (STS) related field *sociology of science*. Academics, such as Latour and Woolgar (1986), questioned the taken-for-granted understanding of the way in which scientific knowledge was created. Important for early ANT thinking was Latour and Woolgar's (1986) supposition that scientific knowledge is made real through inscription devices (usually machines) and practices. Science and technology should not be read as static culprits in the act of legitimizing knowledge. Who and what gets to reify and classify what *counts* as real or right transform over time: this becomes evident (within the context of the emergence of ANT) in Law's (1986) work. Another common theme throughout ANT writing is the (often hidden) role that science and technology have had in structuring and legitimizing knowledge (see Latour, 1988; Latour, 1991; Woolgar, 1991, for example) such that the categories that appear to be real and stable are, in fact, a creation. The work conducted by sociologists of science was significant to the

development of ANT because in inscription and practices, it is suggested that there is a difference between the world as it exists and the world as it is known. Also impacted by post-modern thought, first-wave ANT was concerned about the construction of knowledge, the nature of reality (Law, 2004b) and more specifically, how taken-for-granted realities are built (and in turn, not so taken-for-granted).

Works by Bruno Latour (1993), Michel Callon (1986) and John Law (1986) have been described as the nucleic beginnings of ANT (Castree, 2002). While at the time these authors would not have described their work as falling within a labelled field of inquiry, what defines these papers is their shared ontological perspective on the nature of reality and, in turn, their shared questioning of the location and creation of categories and ways of thinking. ANT was offered as an ontology to transcend binarist thinking, in which *hybrids* or *quasiobjects* (neither entirely natural or social) are not recognized (Castree, 2002).

In actuality, ANT is not without its flaws. It would seem that ANT's approach would offer *the* enticing and engaging method of investigating the more-than-human world. In reading primary works (of both a theoretical and practical nature), everything that is not seen as human is (quite often) uncritically seen as non-human. This perspective has the potential to act as a tool to dissolve nature/culture divides and initially may not be seen as problematic. When investigating hybrid spaces, however, non-human actors are often room keys (Latour, 1991), sailing ships (Law, 1986), laboratories (Latour, 1988) and firearms (Latour, 1993). Even in works (Callon, 1986) that have been cited as focusing on the more-than-human world, that world seemingly does not exist outside the human. In my opinion, the problem is this: actors appear to be valued the same, regardless if they are living or non-living. Haraway echoes these concerns when she critiques the science studies of Latour and others with their "too narrow a concept of the 'collective,' one built up out of only machines and scientists, who are considered in a very narrow time and space frame" (2004, p. 115). There is homogenization of what it is to be an actor. In the focus on the collective and hybrids, it is difficult to assign value and worth to difference. While ANT makes certain strides towards including the living non-human in networks, I find that these networks of relations are problematically human-centric.

Law and Singleton (2005) suggest that objects in ANT were thought of being too rigid and immobile. Envisioning multiple objects or fractal realities opens the possibility for a new way to think about actors and objects. In its use here, an object is not conceived as the binary opposite to a subject; to write of objects does not remove the potential for subjectivity and agency. I believe that switching from an epistemological to ontological perspective allows the multiple objects that exist to emerge: rather than investigating homogeneity, the focus on the heterogeneity of perspectives allows for that mutable and mobile object that Law and Singleton (2005) suggest to be discovered and described; context, local knowledge and personal experience become increasingly important in this process. I think that investigating objects is not necessarily in opposition to my earlier concerns about ANT. In fact, I believe that this perspective is more sophisticated as it requires an investigator to focus on the fractal nature of "reality" and attend to difference, bringing these multiples forward rather than collapsing them. Researchers also have an important hand in creating realities. At this time, I believe that it is fair to say that a focus on objects is not a regressive one: it is filled with attention to the many ways that actors, human and otherwise, engage to enact a reality: a reality that is described through investigation; a reality that is not the only one "out there;" a reality that focuses on heterogeneity and difference.

Relationship to existing work

Much has been written about birding in the popular media. Articles on birder demographics (Dickinson & Edmondson, 1996); birding and technology (Irwin, 2007; LaVallee, 2007); amateur birders impact on ornithology (O'Connor, 2005); the similarity in recognizing patterns in birding and in business ("Spotting Patterns on the Fly: A Conversation with Birders David Sibley and Julia Yoshida," 2002); and general interest pieces (Mackay, 2002; Poole, 2004; A. Scott, 2004) have appeared in newspapers and magazines. This demonstrates a sustained interest in birds and watching birds in our current Western society.

Previous research conducted about birding and bird-watching has been undertaken in a diverse set of academic categories of exploration: scientific work, often describing the impact of birders on reporting populations of birds (Boxall & McFarlane,

1993; Dunn, Larive, & Cyr, 2001; Lepczyk, 2005; Mason, 1990) or the impact of bird-watching activities on bird populations (Sekercioglu, 2002); leisure studies, describing the motivation and interest in birding as leisure pursuit (Lee, 2002; D. Scott, Baker, & Kim, 1999; T.L. Eubanks Jr., Stoll, & Ditton, 2004) or the role that trust plays in the pursuit of birding (Donnelly, 1994); economics, describing the economic impact of birding (Butler, Hvenegaard, & Krystofiak, 1994); the demographics of North American birdwatchers (Cordell & Herbert, 2002; Holt, 1997); historical accounts of ornithology (Barrow, 1998; Quinn, 1995b); political science, describing the biopower of the National Audubon Society (Luk, 2000); science and technological studies, describing the role of the field guide (Law & Lynch, 1988) or how, historically, amateur ornithology reflected societal values of the times (MacDonald, 2002); and cultural studies, questioning birder's values (Karnicky, 2004) or the fetishization of birds (Sandilands, 2000).

In short, I can find no evidence of research conducted that attempts to address the research objectives and method assemblage outlined for this project. While all of these articles focus on some combination of birding, birders and birds, there are common concerns that I have with the kind of research that been conducted. In outlining the differences between my proposed research and the work undertaken to date, I want to acknowledge that my criticisms of what is missing is not the same as criticising the research itself: the work conducted under the assembled matrix of birding research has added to body of knowledge of this activity. Generally, and most problematically in my mind, the works above have focused exclusively on the human aspects of the relationship, essentializing plural *birds* into singular *bird*. In so doing, they have ignored the active role birds play in the act of birding and their own representations. In the proposed research, I will include birds as active participants in the creation of (research) stories about them.

Scientific research (Boxall & McFarlane, 1993; Dunn et al., 2001; Lepczyk, 2005; Mason, 1990) focuses on the impacts of amateur ornithologists in improving the kind and quality of research data used in reporting bird populations. Missing in this work is a critical examination of just what *kind* of information is being collected and how the framing of these inquiries shape what we know about the more-than-human. STS work has shown that scientific activity is not about nature, *per se*, but about constructing a nature (Latour & Woolgar, 1986). My proposed research, while not falling within the

field of STS, will address enactments of birding and birds, with the explicit interest in describing how these enactments act to reinforce or break typical understandings of both birds and the environments they inhabit.

Much of the leisure studies research measures the breadth of interest in the activity of birding and the economic impacts of the people involved. Data consists of disembodied statistical analyses of self-reported activity (Lee, 2002; D. Scott et al., 1999; T.L. Eubanks Jr. et al., 2004) and much of the interest (even joy) of the birders is stripped-out. In economic analyses of birding (Butler et al., 1994), location/place is only consequential to the amount of money that is added to a local economy. Birds and the local environment seem inconsequential in the sense that these papers could replace birding with stamp collecting as the activity under examination and other than the numbers, little would change. My work will strive to include the local and situated knowledge that make each enactment different. Historical accounts offer an intriguing window into the practices, people and perspectives (Barrow, 1998; MacDonald, 2002; Quinn, 1995b) that have helped shaped how birding is currently understood and practiced. They do little, however, to describe current practices (though I do understand that these practices have emerged from prior practices).

Examinations of birding as a cultural practice are especially interesting. I will comment on three specific articles. The first, *A flâneur in the forest?* (Sandilands, 2000) is relevant due to the fact that the research was conducted at Point Pelee National Park, located in Southern Ontario. The article is critical of the apparent fetishization of the birds on the part of the birders. The notion of fetishization echoes Marx's theory of commodity fetishization—and thus portrays the birds as a commodity to be consumed. While an interesting conclusion to draw at Point Pelee (the subject of the cited economic analysis birding), it renders away the possibility of engaging with these organisms in any other way. One concern with Sandilands' conclusion, while it may prove to be more-or-less true for a certain kind of birding practice, it homogenizes the birder (as not all birders consume in the same way) and seemingly ignores any agency the birds may have (Are the birds passive in their consumption? Waley (2000) describes how animals can have agency in their own representation). My work is designed to embrace the notion that birding at places like Point Pelee, while for some may be about consuming bids, may be a more subtle relationship with the more-than-human. Another concern I have

with the work is that the flânerie took place over a weekend. Not enough time, in my opinion, to describe a breadth of practices that occur in such a place. As such, my work is takes place over a longer-term. For example, when I visit a migratory hot-spot, I will stay for two weeks to collect data. Additionally, it will not be my first visit to this location. As such, my observations and data are collected in context of previous experience.

The second article, *Take my word for it* (Donnelly, 1994), describes the role that trust plays in mountaineering and bird watching. Birding, in this work, is described as a sport, with competition occurring through the comparison of lists. Donnelly concludes that in the overwhelmingly majority of cases "trust is not an issue" (1994, p. 225) in bird sightings due to the social nature of the sport—rare sightings are reported and are usually corroborated by other birders. I have become interested in a thread related to this—not birders' trustworthiness—rather the benefits a birder accrues through reporting birds. I believe that the concept of a reputation economy—"the way in which a product's or a person's—really just about *anything's*—standing is shaped by the contributions of end users" (DiClerico, 2008, ¶ 1) may be key in understanding why some birders report bird sightings: they are interested in shaping other's opinion (or reputation) of themselves. Much of the work on reputation economies deals with user reputation on Web 2.0 sites[2] and it could be an interesting extension of the work done by DiClerico to look at birder's methods of accruing a reputation.

In the final article, *Lists, field guides, and the descriptive organization of seeing: Birdwatching as an exemplary observational activity* (Law & Lynch, 1988), the authors provide a model of what occurs within the watching process:

> We are suggesting that birdwatchers do not simply see birds. Rather: they (1) engage in a reflexive elaboration in which a text provides an iterable organization, a bulky object and a moment in a hermeneutic reading of the world; and (2) organize their gaze sequentially, in terms of the canonical order of a list. (Law & Lynch, 1988, p. 273)

This publication is now twenty years old. While the model of practice Law and Lynch describe provides an interesting departure for my own work, it will be important, for

[2] Web 2.0 describes a suite of websites that act more like programs than static pages, using "new" web technologies (such as Ajax [a JavaScript and XML programming language], and RSS [really simple syndication]) to do so.

example, to compare the "naturalistic assumptions" inherent in the use of field guides for identification purposes. My work will differ in that analysis will not only come from a critical reading and analysis of birding books, as Law and Lynch offer, but from observation of practice in the field and interview data. Finally, while bird representations are present in the paper, the birds themselves are missing—the paper is about the "organization of textual materials" (Law & Lynch, 1988, p. 297) and in a sense, the birds as the subject of the textual materials appear inconsequential.

Thus, my proposed addresses the following concerns that I see as missing in current work:

- *Birds and the local environment seem inconsequential*. For some of this research, the act of humans interacting with the more-than-human world is irrelevant to the story being told. The fact that birding is an opportunity for birds, humans and the greater more-than-human world to come in contact with each other is key in to have further discussions about what these relationships mean for how birds are conceived and how humans come to know the more-than-human.
- *Bird watching is conceived with certain monolithic assumptions: it is the same activity regardless of its location.* My basic assumption, informed in part by my understanding of enactments, is this: birding is *not* the same activity everywhere it is practiced. I will address this concern by visiting more than one birding site, looking to investigate the different assemblages that are enacted.
- *Birds are essentialized into bird.* I will address this concern first from a philosophical perspective that holds that birds have agency. If a bird is an agent, then they hold the ability to intervene in the networks of which they are a part. While I am interested in human's perspectives on the act of watching birds, I will strive to include the watched birds in the research. This will be achieved through personal observation and reflection in a journal, where I will pay special attention to moments where birds intercede in these networks.

Method assemblage

Law (2004a) writes that we have to teach ourselves new ways of thinking, practicing, relating and knowing the social. This then calls for, first, a discussion of methods and their (often invisible) ability to enact realities and second, a need to acknowledge the act of othering that takes place within the act of research. Associated with notions of the enactment of realities, multiple objects and the turn from epistemology to ontology, Law writes that method is better thought of as method assemblages and in so doing, an associated term is introduced, that of the hinterland. Law defines method assemblage:

> If new realities "out-there" and new knowledge of those realities "in-here" are to be created, then practices that can cope with a hinterland of pre-existing social and material realities also have to be built up and sustained. I call the enactment of this hinterland and its bundle of ramifying relations a "method assemblage". (Law, 2004a, p. 13)

The hinterland and method assemblage are intimately linked. Law (2004b) argues that method does not simply act as a tool to innocently discover and show reality, rather methods participate in realities' enactment (Law, 2004a). This can be seen in the work completed by Mol (2002), where different medical departments had their own different methods, skill levels and practices. Law suggests that in this research, the hinterland is "…the X-ray machine; the dyes; the catheters; the lead screens; the surgical incision; the antisepsis; the sedated patient; the table on which he lies; and a whole lot more." (Law, 2004a, p. 48) In this research project, I am engaging with the notion that research methods are intimately linked to the kind of reality I am able to describe. As such, I plan to use a variety of methods to not only help elucidate the goals of my research, but to help identify the hinterlands in my own work.

Law's call for method

Since methods participate in the assemblage and enactment of reality, selecting a method is not a question of choosing the right tool to best depict "reality." Now, the questions perhaps should be: What kind of reality ought I be storying or co-creating? What collection of methods allows for the creation or maintenance of the best, or most responsible, or *x* (insert your own adjective here) social reality? The implication of the enactment of reality is that methods simply do not "uncover." Rather, in their relations

of investigation, objects are made by methods and if that is the case, research becomes a question of what might be brought into being. Methods, be they qualitative, quantitative or otherwise, make multiple worlds and "...such worlds might be equally valid, equally true, but simply unlike one another." (Law & Urry, 2004, p. 397) In basic terms, there is no single "world" to uncover.

Research objectives

I plan to use a mixed-methods approach, integrating autoethnography, participant observation, semi-structured interviews, a photographic supplement and Global Positioning System (GPS) mapping, over a number of research sites to meet my research objectives. *My primary objective is to: use an actor-network approach to thoroughly describe the enactment of birding—understood as the varied assemblages of practice that include humans, birds, landscape and objects—by actors in my chosen research sites in order to contribute to broader understandings of how perspectives of the more-than-human world are formed, organized, maintained and dissolved.* I will describe the natural history aspects and ethical relations that emerge between the human and more-than-human. To complete these objectives, my research tasks are to:

1. Collect observations of bird-birder interactions in various research locations;
2. Interview birders to ask them about their practices;
3. Observe the agency that birds have in the multiples assemblages through observations of birds in relation to birders ,while in the field;
4. Map birders' connections to the landscapes in which the activity is situated; and
5. Record how birds are understood and known through the use of birding technologies and inscription devices.

Research sites

In order to describe the enactments of birding, I will visit a variety of sites that have been pre-selectedto represent a cross-section of birding locations and practices. These sites will be:

1. **Rondeau Provincial Park, Ontario**

Rondeau is a location where migratory birds "fall out" (land, exhausted) after crossing Lake Erie during the spring migration. While not as popular in birder's minds

as Point Pelee National Park, it does offer a wide variety of bird species and birders. I will stay at Rondeau for two weeks during the spring migration to interview birders and engage in participant observation and birding practices.

2. **The Business District, downtown Toronto**

Project FLAP (the Fatal Light Awareness Program) fields volunteers during spring and fall migrations to canvas the downtown core in the early mornings looking for disoriented or injured birds. They are then rescued, rehabilitated and released outside the city. I will observe and interview some of these volunteers.

3. **Rare bird sighting(s), various locations in Ontario**

Sightings of rare, unusual or off-season birds offer a strong draw for some birders. Through reports from an electronic listserv, I plan to visit rare bird sightings over a number of days to interview and observe birders drawn by the bird, and when possible to observe the birds.

4. **Back-yard bird feeding, various locations in Ontario**

Speaking to people who feed birds in their backyard will offer a perspective of those who may be interested in birds for reasons other than those who travel to observe rare birds or migratory birds.

5. **A birding course**

I will explore how people learn about birding. Participating in a birding course will offer observations of what interests people in the topic of the course and how knowing birds is structured.

6. **Personal birding, various locations in Ontario**

As a birder myself, I will use a field journal and an autoethnographic approach (Richardson & Pierre, 2005) to record my experiences and reflections in the data collection phase of this research.

A detailed list of research methods, sites, dates, and duration can be found in Appendix A.

Method

Semi-structured interviews, analysed using a modified approach to grounded theory

I plan to conduct semi-structured interviews with birders following a list of interview questions, (see Appendix B). The interviews will be recorded using a digital recording device (see Appendix C for the costs associated with this research project). After each interview, or, after a day of interviews, I will transfer the audio file to my computer. Initially following a grounded theory approach, I will transcribe and analyse the interviews as they occur. My transcriptions will pay attention to and include pauses, voice intonation changes, laughs and other non-verbal components. I am not, however, following the typical prescribed grounded theory method of coding and conceptual development in my analysis. As such, I outline my concerns below.

Grounded theory refers to "a set of flexible analytical guidelines that enable researchers to focus their data collection and build inductive middle-range theories through successive levels of data analysis and conceptual development" (Charmaz, 2005, p. 507), providing researchers with a well-worn path for moving from observed data to theory generation. In turn, it promises "something more secure epistemologically than everyday noticing" where "the inferences provided by the theory are better than other inferences." (Thomas & James, 2006, p. 777) The crux, however, of subscribing to the tenants of a grounded theory approach is that "the starting points of qualitative inquiry are contradicted—and even undermined—by the aims, claims and methods of grounded theorists" (Thomas & James, 2006, p. 790) and that any interpretations made, in fact, "enable no prediction or explanation, or at least no better prediction or explanation than any of us would make on the basis of our many years of experience of being human." (Thomas & James, 2006, p. 778) In other words, it fails to deliver on its promise of discovery and, perhaps more problematically, because it is deployed in a framework of structured inquiry, it makes the claim that the "theory" discovered is more real, more right than what would have been generated otherwise. Given methodological criticisms, I will modify grounded theory's typical deployment in two ways: 1) Interviews are not my sole source of material for this project. As I describe in a following section, *Mapping the sites*, I plan to bring together a method assemblage

that will handle complexities in a more non-reductive way by including mapping dimensions; and 2) I will modify the way that the source material is analysed.

I will be using transcription software, Express Scribe, to assist in the act of transcription. I will then, using software designed to assist in qualitative analysis, Nvivo 7, conduct an initial analysis of the transcription (or first-pass). This initial analysis is not coding the data, rather it will be based on Nvivo' annotation function: I will read through the source material and note irruptions or confirmations of my understanding of the particular enactment of birding. Based on the analysis of the transcription, new perspectives or questions may emerge from the data collected and modifications to the semi-structured questions will be made as necessary to further investigate or probe any developments.

With a set of interviews at a research site transcribed and a first-pass analysis completed, I will then move on to my second-stage of analysis, where I will examine source material to find and code themes. Codes will not be pre-determined, rather they will be generated, or emerge, in combination from the source material and my participant observation. Codes with common elements will be merged into categories. And categories and codes will be compared between documents to "ensure consistency of application, as well as adherence to the definition of the code." (Hewitt-Taylor, 2001, p. 40) This method of constant comparison is a sub-method of Glaserian grounded theory (Dye, Schatz, Rosenberg, & Coleman, 2000). I will only be, however, using the first (of the four described stages of this method) as a way of ensuring that my codes, as best as possible, have inter- and intra-rater reliability.

Adel Clark (2003) attempts to update grounded theory with the heterogeneous and intricate nature of social relationships in mind. Intriguingly, especially given my interest in generating both a description of birding assemblages and a topology of ethical relations between birders and birds, Clark calls for the use of three situational "cartographic approaches" (2003, p. 554) to investigate and negotiate social worlds that include: situational maps; social worlds/arena maps; and positional maps.

With Clarke's cartographic approaches in mind and Law and Mol's caution about the complexity of boundaries defying "the cartographic imagination" (2005, p. 637), I will use my coded interview data to create what Clarke calls situational maps and what I would describe as a visual representation of the enactments of birding. This will be

completed for each research site, with the acknowledgement that there might be ways that the maps connect with each other. Clarke (2003) outlines (pp. 569-570) a method of analysing situational maps using photocopies and drawing that, in addition to the observable actors and objects, help elicit silences of the work. Attending to what appears to be missing is part of the promise of this method. I also need to make explicit that these maps will not only contain data collected through interviews. Rather, in addition, I will be including the data that I collect in my journal through participant observation and autoethnography.

Observation, autoethnography and journaling

As outlined in Appendix A, I plan to keep a journal as a way of collecting data throughout this research project. In this journal I plan to document observations of the more-than-human world, my own reflections and note relevant participant observation. Implicit my understanding of participant is the notion that this breaches the human/non-human divide. As such, my observations will record relevant human and more-than-human moments, events and reflections.

Participant observation and interviews have been the primary research methods of ethnography (Byrne, 2001, p. 82). To simply interview participants is not seen as being an immersive enough method to be ethnographic; if the researcher locates themselves physically within the phenomena and context to be investigated, a richer more contextual meaning emerges (Byrne, 2001, p.82). Postmodern critiques of ethnography have been made regarding the construction of "one form of ethnographic 'truth'" (Manias & Street, 2001, p. 235) in typical ethnographic texts. To argue that there is one truth speaks to an underlying positivist perspective on knowledge that then leads to the belief that, that one truth applies at all times and universally for that particular group. It is important to challenge and "explore the complex, multiple truths inherent" in ethnographic study (Manias & Street, 2001, p. 240), and in the turn towards crystallized, fractal realities, the ethnographic genre "has been blurred, enlarged and altered with researchers writing in different formats for a variety of audiences" (Richardson & Pierre, 2005, p. 962) which is why I aim to include myself and the more-than-human in my ethnographic observations. These ethnographies—creative analytical process ethnographies as described by Richardson and Pierre (2005)—open spaces to

think about the social in ways that currently elude us and are as valid as any other social scientific methodological convention (Richardson & Pierre, 2005). Richardson and Pierre (2005) describe the high standards to which autoethnographies should be held. Pieces should offer: impact; aesthetic merit; evidence of reflexivity of the author's place in creating the text, and; a substantive contribution to the understanding of social life.

This journal will be the primary way that I engage with and reflect on the agency of the birds and the more-than-human world in this research. To engage with the agency of the more-than-human requires grappling with the question of how to properly recognize acts of agency when they occur. I obviously do not have direct access to the mental states of my study's participants. Required, then, and a part of my journaling will be the imagination of other—what Philo and Wilbert describe as "morphisms" (2000). Hinchliffe, Kearnes, Degen, & Whatmore (2005) write of their experiences looking for water voles (*Arvicola terrestris*) in urban U.K. While not explicitly about the morphisms of these voles, Hinchliffe et al. do manage a new ability to "write" water voles. Their ability came from, they suggest, the "rapid movements between texts, descriptions, field signs, conversations, comparisons, finding similarities, explaining differences, and so on" (Hinchliffe et al., 2005, p. 648). Being able to write water voles is the ability to make the voles' presence—and agency—visible; rather than "faithful representations" the emergence of these voles was in "creative address" (Hinchliffe et al., 2005, p. 648). Water vole's presence and agency became apparent only when Hinchliffe et. al began to look for it themselves. In the act of looking, undertaken in relationship to field guides, conversations and personal experience, they discovered vole writing.

Abram (1996) writes that "becoming susceptible to the sophistication of non-human things" (p. 20) allowed him to "*see* and *hear* in a manner [he] never had before" (p. 20, author's emphasis) Let me suggest, then, that these imaginations or creative addresses are less leap-of-faiths across some unknown chasm and more an extension of being—for while I may not know what the Yellow-rumped Warbler (*Dendroica coronata)* is feeling while feeding, I do know what it is like to be hungry and to be satiated. The danger, then, is not in inscribing too much to the more-than-human, rather the danger is denying that I do not have the ability to know such organisms. This journal, following a tradition of natural history journaling that includes narrative and illustrations (Leslie & Roth, 2003), will pay close multi-sensory attention to place and

the organisms found thereabouts in order that I have the opportunity to see different organisms' writings, singings and otherwise. In that, I hope to see agency at Each entry will include the following information (adapted from Leslie & Roth, 2003):

1. Date
2. Place
3. Time spent
4. Weather (including wind direction, cloud patterns and cover)
5. Ground observations
6. Eye-level observations
7. Overhead observations
8. Whole-landscape observations
9. Key participant observations
10. Reflections on observations (if there is more than one entry per day, this may be one summative reflection)

Photographic supplement

Inspired, in part, by Law and Urry's (2004) call and the method used by Hartel (2006) in her paper on gourmet cooking, I plan to take and use photographs to support and supplement my largely textual methods. What I choose to photograph and how I will analyse these photographs will change depending on the location of the research. Generally speaking, I would like to take photographs of the locations to provide another mode of framing the research locations. When speaking with back-yard bird feeders, for example, I plan to modify Hartel's (2006) photographic tour which structures the photographs taken and allows for comparison across the various sites. In this case, in addition to the semi-structured interviews that will occur, I would like to ask participants to show me their bird-feeding station(s) and subsequently photograph these. The photographs will then serve as a visual reference of the similarities and differences in the objects used to attract birds.

Mapping the sites or reading the relational spaces

While I am birding, I propose to wear a GPS device to attempt to enact different realities through the use of expression other than speaking, writing or drawing. With the

device on for the time that I am out in the field, I will be able to upload my daily track to my computer (see an example of such a track in Figure 2, below).

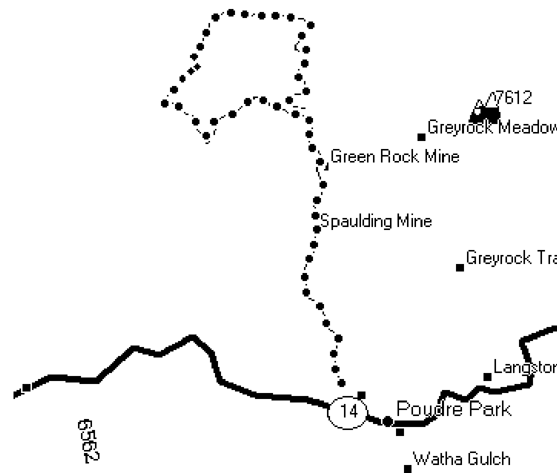

Figure 2: Example of a GPS Track (dotted line) overlaid on a map

These tracks will then act as a visual and geographic representation of the day's movement over the landscape. I propose to redraw the tracks so that they begin to visually exemplify the temporal and spatial information, such as thickening the lines to represent more time spent in one place: at a glance the redrawn lines show more than just movement though space, the show detail about tempo and attention. Not only used to track my movement over a day of watching birds, GPS has been deployed to track bird movement (von Hünerbein, Hamann, Rüter, & Wiltschko, 2000). Bergman (2005) has taken up the use of radio-telemetry in the surveillance of birds in Latin America. At issue is the abstraction of bird lives—they become more like simulations or simulacara (using Baudrillard's terminology) than organisms.

Anticipated contributions

I intend to contribute knowledge in the following areas:

1. Bird conservation, as a better understanding of the birder/birdwatcher relationship will impact conservation policy and practice;

2. Environmental ethics, offering a new perspective on the relational moral space that exists between birds, bird watchers and landscape.
3. Environmental education, in terms of the role that informal, free-choice learning can play in the creation of knowledge and perspectives of birding and the more-than-human world;
4. Animal studies, with research, grounded in the situated knowledges of a natural history practice, that continues to address the "question of the animal" within a set of practices that are based on seeking out of wild animals; and
5. Methods for describing networks, where the use of a mixed-method approach with a focus on natural history to describe enactments of birding offers insight into investigating heterogeneous networks of relations.

Dissertation chapters

Please see Appendix D for an outline of the dissertation's proposed chapters.

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Appendix A: Detailed description of research

Site	Time	Duration	1° Method	Supplementary
Rondeau Provincial Park	May, 2008	2 weeks	-Interviews -Participant observation	-Field journal -GPS mapping -Photography
The Business District, downtown Toronto	Fall, 2008	On-going	-Interviews	-Participant observation -Field journal -GPS mapping
Rare bird sighting	Unknown	Unknown	-Field journal	-Interviews -Participant observation -GPS mapping -Photography
Personal birding	Various locations	On-going	-Field journal	-GPS mapping -Photography
Birding course	Winter, 2008	1 day	-Field journal	-Participant observation
Back-yard birding	On-going	On-going	-Interviews	-Participant observation -Field journal -Photography

Appendix B: Interview questions, by site

In addition to the following questions, I would collect basic demographic information, including:

- Sex (male/female)
- Age range (in decades) (e.g.: 0-9,10-19,20-29,30-39,40-49,50-59,60-69,70-79,80-89,90-99,100+)
- Education level (highest level attained) (e.g.: some high school, high school graduate, some college / university, university graduate, some post-graduate education, post-graduate-graduate)
- Employment status (part-time, full-time, student, retired, unemployed)
- Job title
- Self-described level of birder (e.g.: beginner / intermediate / advanced)

Common questions	Reasoning
1. Can you remember what drew you to watching birds?	Autobiographical question that is a good warm-up and will speak to original motivations.
2. What is most enjoyable now about birding for you?	Reasons for birding now may be different than when they began; demonstrates an arc of development, if any.
3. Do you keep a list or tally the birds you see? a. What does that look like?	A question of procedure; answers here may speak to the continuum of unicentric / multicentric perspectives in birding.
4. What did you bring with you today? Why? a. Is this typical of what you would normally bring birding?	This question serves to make explicit the objects used in birding; related to q. #3
5. Tell me about the most interesting bird you've seen.	Asks the interviewee to make a value judgement about their observations; their most interesting bird may be revealing in terms of the kind of bird / story associated.
6. People suggest that while watching birds, it would be wrong to disturb a bird on a nest. Are there personal guidelines that you follow when birding?	A question of a personal ethic.
7. What are your sources of information about birds or bird-watching?	A probing question to illustrate other objects in the assemblage.
8. How often, would you say, that birds are aware of your presence? a. What do you imagine birds are thinking while you're watching them?	Asking birders to think of the bird; making the bird an explicit part of the act. Answers will reveal the extent to which the birds are thought of as
9. Thinking beyond your knowledge of birds, what have you learned, if anything about the larger world from birding?	Addresses, in birder's own words, the "so what" question of birding.

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Rondeau Provincial Park

Question	Note
1. How long are you planning on visiting Rondeau? a. Have you visited / Are you visiting anywhere else?	As a destination, I am curious how much time birders would spend in this location.
2. Please share with me how you decide where to go on a given day.	A question of procedure; will show other actors present in this particular assemblage.
3. Is there one bird that you would be most-excited to see today? / What bird did you see today that made you the most excited?	Engages with emotional states; I hypothesize it is a Prothonotary Warbler (*Protonotaria citrea*), a species-at-risk.
4. What do you think of Rondeau? a. What do you imagine birds think of this landscape?	A question of impression of the landscape.

Business District, Downtown Toronto

In the downtown Toronto case, I'll likely be speaking with people rescuing birds. I will likely replace the term "birding" with "bird rescue."

I will not ask common q. # 6 (above).

Question	Note
1. What do you think of the Business District? a. What do you imagine birds think of this landscape?	A mirror of the Rondeau question

Rare bird sighting

For this site, I plan on limiting the questions to common q. #4 (above), and those below.

n.b.: I would replace "bird" or "the bird" in the following with the name of the bird species reported

Question	Note
1. I'm interested in knowing how you found out about this bird.	A question of procedure; will show other actors present in this particular assemblage; I hypothesize the OntBirds listserve plays a role.
2. How far did you travel today to get a chance to see this bird?	Speaks to intent and interest; also speaks to the "pull" of a rarity
3. Did you get a chance to observe the reported bird? a. How long did you spend looking for the bird? b. How did getting a chance to see the bird feel / How did not getting a chance to see the bird feel?	There isn't any guarantee that a birder will see the rare bird, so I am curious to see the dedication necessary; speaks to the agency of the bird; the feeling question speaks to emotions.

Personal birding

I will follow common question set, if I decide to interview while birding on my own.

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Birding course

No interviews planned.

Back-yard birding

I would ask, from the common questions above, q. #1—#3, q. #5, q. #7—#9

1. Tell me how you attract birds to your yard.

   This question serves to make explicit the objects used in bird feeding. A good opening.

2. Would you consider yourself a birder? Why / Why not?
   a. Do you bird elsewhere other than your yard?

   Interested in knowing why someone who fed birds in their backyard would or would not consider themselves a birder; may speak to exclusionary criteria

3. What do you use to observe birds?

   Common q.# 4 (above) re-stated.

4. Do you keep a list of the birds you see in your yard?

   Common q.# 3 (above) re-stated.

5. Are there some birds you would rather not have visit your feeders? Why?
6. Do you feed birds year-round or seasonally?
   a. How did you make this decision?

Appendix C: Equipment and research costs

Item	Cost
Olympus WS-110 Digital Recorder	$113.00
Unidirectional microphone	$50.00
Long-distance charges	
10 interviews @ 60 min	$25.00
Global Positioning System	$470.00
Two-week cottage rental, Rondeau	$1200.00
Transportation (Fuel costs to and from various research sites and parking)	
6 months of research @ $100 / mo	$600.00
Park Fees	
Ontario Parks Summer Pass (April 1, '08—November 30, '08)	$80.00
Food	
Includes:	
My food costs for two weeks in Rondeau	$250
Purchased lunch or coffee for interviewees research	$200
Meals at other times	$400
Express scribe transcription software	Free
Transcription foot pedal	$120
Nvivo 7	$115
Total	$3623.00

Appendix D: Proposed chapters

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<tr><td>1</td><td>Introduction</td><td rowspan="3">Lead-in</td></tr>
<tr><td>2</td><td>Review of literature and research question
• Framed around central research question</td></tr>
<tr><td>3</td><td>Methodology and Method</td></tr>
<tr><td>4</td><td>The Practice of Birding (reporting findings)
• The exploration of enactments observed at the different physical sites</td><td rowspan="3">Core</td></tr>
<tr><td>5</td><td>Birding Objects (STS piece)
• The assemblage of objects that enact bird-watching</td></tr>
<tr><td>6</td><td>Birding as knowing the more-than-human (animal studies piece)
• How the act of birding (informed by findings & examples) shapes the understanding of birds</td></tr>
<tr><td>7</td><td>Birding as education
• Discussion or the “so what” chapter
• What birders are learning through birding
• Is there knowledge translation?</td><td rowspan="2">Lead-out</td></tr>
<tr><td>8</td><td>Conclusion</td></tr>
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