Regulating Wildness: Planning Discourses of Weeds and Wildlife in Washington, D.C.

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Table of Contents

Dedication	4
Acknowledgements	5
List of Figures	6
List of Tables	8
Abstract	9
Chapter 1 Planning for Wildness	10
Literature	
Theoretical Framework	20
Cases and Methods	25
Chapter 2 Vocabularies of Urban Nature in Planning	29
Natures in Planning History	31
Methods	
Vocabularies of Urban Nature(s)	
Planning's Natures	
Conclusion	45
Chapter 3 The Roots of Planning and Nature: The McMillan Plan	48
The City Beautiful and Social Control	48
City Natures	
Methods	
The McMillan Plan	
Nature in the McMillan Plan	57
Chapter 4 Regulating Weeds: Relational Discourses of Nuisance and Nature in Twentieth Century	
Washington	
Urban Weeds	
Methods	
The Weed Removal Act	
Weeding Washington Deregulating Weeds	
Chapter 5 Environmental Discourses of Animal Protection and Destruction in Washington, D.C.	
Urban Wildlife Methods	
The 2010 DC Wildlife Protection Act	
DC Wildlife Action Plan	
Redefining Urban Wildlife	
Chapter 6 Planning Without Wildness	
Shifting Discourse Relational Cities	
Implications for Practice	
Future Research	
Embracing Entanglement.	
Works Cited	

Dedication

To Cody and Nora, my best teachers despite many, many years of school.

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List of Figures

igure 1.1. Social construction and new materialism interweave with relational interconnectedness.		
Figure 1.2. Regulating Wildness Framework	28	
Figure 2.1. Methodology	33	
Figure 2.2. Nature Vocabulary Frequency by Journal	37	
Figure 2.3. Nature Vocabularies in Planning vs. Other Disciplines	40	
Figure 2.4. Two Starting Points for Nature Theories	41	
Figure 2.5. Summary of theoretical positions towards "nature" evident in contemporary planning scholarship.	47	
Figure 3.1. The Presidential Party viewing the models of Senator James McMillan's plan for rebuilding the city of Washington, D.C., <i>The Washington Post</i> , January 16, 1902, p. 11	ig 56	
Figure 3.2. View showing the proposed treatment of Union Square.	59	
Figure 3.3. "Rock Creek, looking north from M street bridge, showing landscape value of the open wa surface and the foliage of the valley, and indicating the disagreeable character of the high-level surroundings." (McMillan Plan Image 180)	ater 61	
Figure 4.1. Weeds adapting to urban conditions, Year 1 (Diagram created with Sarah Pate and Maddie Hoagland-Hanson)	e 71	
Figure 4.2. Weeds adapting to urban conditions, Year 2 (Diagram created with Sarah Pate and Maddie Hoagland-Hanson)	e 72	
Figure 4.3. Sensational headline from the Washington Post, January 12, 1899	79	
Figure 4.4. Cartoon by Clifford Berryman for the Washington Evening Star, August 15, 1915.	85	
Figure 4.5. District of Columbia Health Officer Report of Nuisances for Fiscal Year 1901-1902.	91	
Figure 4.6. Cartoon by Clifford Berryman for the Washington Evening Star, August 22, 1921	100	
Figure 4.7. Unimproved area in the 1000 block of 2nd Street SE (Historical Society of Washington)	107	
Figure 4.8. Unimproved area in the 1100 block of 2nd Street SE (Historical Society of Washington)	107	
Figure 4.9. View over Reservation 337B, at the intersection of Minnesota Avenue, 34th and D Streets	SE 108	
Figure 5.1. Animals adapt easily to and survive in relationship with human-created conditions in cities	5	

such as food availability, places that are warm, and places to find refuge. (Diagram created with Sarah Pate and Maddie Hoagland-Hanson) 113

Figure 5.2. Scott Giacoppo of the Washington Humane Society holding up a metal trap	119
Figure 5.3. District of Columbia habitat formation map (Wildlife Action Plan, 41).	134

Figure 6.1. Entanglement between human and nonhuman redistributes primacy of human interests in favor of collaborative relations. (Diagram created with Sarah Pate and Maddie Hoagland-Hanson) 183

List of Tables

Table 2.1. Number of articles referencing "Nature" in planning journals, 1995-2017	
Table 2.2. Top five codes compared with terms not present by journal	39
Table 2.3. Natures as fluid, socio-politically-ecologically situated	
Table 2.4. Nature as normative ontological object	
Table 5.1. Wildlife Protection Act Types of "Wildlife Control"	121

Abstract

Plants and animals appearing in great numbers where humans do not want them complicate and challenge discourses of order and the singularity of human intentionality embedded in urban planning theory and practice. What do these heterotopic shadow species that are outwardly reviled yet intimately connected to humans provide in opposition and as complements to more formal, ordered, and controlled aspects of cities, both ecologically and experientially? My approach to studying this topic includes an explication of theoretical positions towards urban "natures" evident in contemporary planning scholarship, and textual and visual analyses of how weeds and wildlife appear in Washington, D.C. planning and regulatory discourses at particular moments in the city's history. The District of Columbia plays a significant role in shaping American planning history via the exemplary McMillan Plan, and also has intrinsically interesting historical and contemporary regulations and plans responding directly to heterotopic plants and animals, among them the 1899 Weed Removal Act and the 2010 Wildlife Protection Act. Through these cases, this dissertation argues the need to plan for urban plants and animals in relational ways that acknowledge both social construction of "natures" and immediacy and importance of nonhuman materiality as part of urban life.

Chapter 1 Planning for Wildness

The "wildness" ever-present heterotopic plants and animals introduce, entangled and co-created with remnants of human habitation such as railroad tracks, crumbling building foundations, and cracking asphalt, offers opportunities to reflect on the shadow, the other, the darker parts of life. Such opportunities need not always be stripped away, "tamed," or transformed to produce "cleaner" and more orderly places under the onus of people's stated or assumed preferences (Nassauer 1995; Kühn 2006). When taken together, this work is intended to build on a remarkable history of practice and body of scholarship on urban natures. In re-framing discourse around planning for and regulating wildness, the intent is not to negate previous work, but rather to see it through new eyes, to use new language to describe, instruct, and understand the ways in which urban plants, animals, and humans might live together. Even just a slight shift in language, from "us" vs. "them" to "we," imagines urban plants, animals, and humans as part of a complex interrelated relational network that is always unfolding, one in which the actions of one affect the experiences of many others. This relationality need not put us in a bind in which everything must always be "balanced"; quite the contrary, different constellations of actors will have different needs, desires, and relationships depending on the time, place, and circumstances, which will necessitate different approaches and configurations. Ultimately, acknowledging relational and socially constructed assemblages of plants, animals, and humans in cities re-distributes agency and responsibility of and for planning places in a more ethical and holistic direction. Non-human "others" have a lot of wisdom about the history, current conditions, and future possibilities of a place, and if we are willing to listen to them, and consider possibilities beyond just the status quo or singly human needs and visions, this will enrich planning practice, theory, and scholarship with new configurations and ways of being and living with one another. Geographer Tim Edensor, using a framework of urban industrial "ruins," traces a predictable scenario regarding human ambivalence toward unintentional landscapes, attempts to clear them away, and the latent and unrecognized potential therein:

As spaces that have become unplowed and are no longer regularly cleansed to minimise nonhuman intrusions, plants and animals show their adaptability to the opportunities which arise in the city as they quickly seek out cracks in which they may prosper, finding nesting spaces, food sources and territories. This rapid colonisation testifies to the scale of ongoing human attempts to banish from urban settings all but the most favoured companion plants and animals from their midst. And it also showcases the agency of insects, birds, mammals, fungi, shrubs, flowering plants and trees in the constitution of the urban, despite their wrongly assumed absence. (Edensor 2005, 27)

That plants and animals, particularly those outside of those commonly loved and admired by humans, are actively co-constituting city life alongside and intertwined with human plans and actions for the city is a central argument of this work, one this work intends to deepen and bring to the forefront of planning discourse and practice. Much of urban planning history to date is a history of human experience.¹ This work expands the planning history canon to include plans and associated regulations that feature and figure in non-humans, in particular plants and animals that are often not considered favorably. This work also draws connections between related fields, including urban geography, urban planning, environmental policy and landscape studies, situating it as inherently interdisciplinary. This both advances planning discourse through dialogue with other fields, and also brings the field of planning and planning's interests directly into the discussions and arguments that related fields are engaging.

This work advances theory by applying relational geography, social construction, and the primacy of nonhumans to planning and regulating urban natures. Little work in canonical planning scholarship to date adopts a relational framework, and this work builds on and extends the few scholars who have started along this path (Kinder 2011; Karvonen 2017; Metzger 2018; Blok 2018). This work also recognizes the ways in which all planning theory, thought, and practice are socially and materially constructed. By untangling and re-interpreting the basic principles of planning for urban natures, this work reveals the ways in which these principles have been socially constructed, and suggests ways in which they might be re-constructed to include new and emerging relationships and agencies for nonhumans formerly without them. Recognizing nonhuman agency is a growing realm in planning scholarship: Robert Beauregard in particular has written extensively about the need to incorporate and consider non-human things as allies in

¹ A notable recent exception outside the United States context is Jens Lachmund's *Greening Berlin* (Lachmund 2013)

planning processes and products (Beauregard 2012, 2015), but little empirical work exists to test and extend his theoretical arguments as applied to urban plants and animals specifically as this work does.

Policy implications include a call to plan in more holistic and thoughtful ways with and for the nonhuman inhabitants humans share cities with. In the case of planning with and for animals, this might include sections of existing plans or entirely new planning processes that consider not just precious species of greatest conservation need, but the many flows and relations of animals that appear and coexist with humans in cities. In the case of planning with and for plants, this might include revisiting or revising policies strictly limiting types of plants permitted in cities presently based on time- and specieslimited criteria. Plans and regulations that truly deeply embrace co-existence with plants and animals might discover ways to creatively and thoughtfully construct relationships and physical space for cohabitation that maximize benefits for all types of plants and animals. In some cases, policies and plans that approximate the most thoughtful and respectful approaches to nonhuman life are not about regulating and managing the plants and animals at all, but rather might advise and regulate human behaviors and actions that presently promote ill-effects for nonhumans. Policies that might radically change human activities like food and other waste and storage and disposal or re-use of that waste (including sewage, construction waste, and many other types of detritus) might actually be the most effective places to start in terms of wide and lasting benefits for nonhuman inhabitants. This might include policies that would affect residences, restaurants, commercial and office operations, municipal operations, and much more. Recognizing the impact of our own activities on those around us is a good place to start.

The work herein will explore tensions between planning theories and enactment of natures, first through an exploration of contemporary linguistic and practical orientations towards urban natures in planning scholarship, then through a set of case studies at different moments of Washington, D.C.'s history. The first case (Chapter 3) is a study of planning and regulatory actions underway at the turn of the twentieth century that promoted a set of discourses around nature and weeds, constructing the latter as undesirable aesthetically and threatening human health and public safety. The second case (Chapter 4) uncovers various discourses at play around urban wildlife, unpacking what it means to be a "wild" animal

in Washington at the turn of the twenty-first century. Finally, Chapter 5 concludes with an argument for a shift in planning discourse and practice towards a more relational approach to planning for nonhuman natures in cities. The title of this chapter might seem oxymoronic – how do you "plan" for "wildness"? Are not the two concepts diametrically opposed? The moment we plan for something, is not the sense of wild, the sense of other, the sense of spontaneous and independent, autonomous existence obliterated? By way of introduction, this chapter explores the meaning of wildness, covers a range of planning and planning-related literatures that contend with the urban "wild" and urban "nature," and sets forth the research questions, theoretical framework, cases, and methodology of the work to follow.

Literature

The "wild" and "wilderness" are concepts that have taken on many different meanings throughout human and environmental history. From Biblical references to a dark and dangerous place or an experience apart from godliness, to agrarian efforts to beat back, tame, and bring order to "wild" vegetation for crops, domiciles and gardens, early ideas of wild nature in the western imagination conjured up fear and were associated with hard, ceaseless work. In the late nineteenth and twentieth centuries, a new idea of wilderness as a place of wonderment, awe, and spiritual restoration emerged, particularly in the United States and among Americans. Writers and explorers such as Henry David Thoreau, John Muir, and Aldo Leopold reshaped the American idea of wilderness into an idealized experience, a place where one might go to find something spectacular and other-worldly, uniquely set apart from human intervention.

In his influential essay, "The Trouble with Wilderness," William Cronon shows how nineteenth and twentieth-century visions of wilderness were founded on and perpetuated misguided understandings of the relationship between humans and their environment (Cronon 1995a). Cronon argues convincingly that rather than being a separate place "untouched" and apart from human influence, wilderness areas, and the very idea of wilderness, are decidedly human creations, often at the expense of people who used and inhabited these areas before they were designated "wilderness." Some such people include indigenous

populations in the American west and early European immigrants living off the land in the Appalachian Mountains that would become Shenandoah National Park (once all traces of human habitation were cleared from the landscape) (Horning 2015). Importantly for this project, Cronon also concludes with a suggestion that if what we think of as "wilderness" is not what we think it is, one important path forward is not to idealize the wilderness, but to recognize the wildness within ourselves and our everyday lives: "If wildness can stop being (just) out there and start being (also) in here, if it can start being as humane as it is natural, then perhaps we can get on with the unending task of struggling to live rightly in the world – not just in the garden, not just in the wilderness, but in the home that encompasses them both" (Cronon 1995a, 90).

Although constructions of "the wild" and "wilderness" are often imagined as places far from urban areas, ostensibly away from human influence, the idea of the wild and wilderness as part of the urban fabric is emerging in urban literature and practice (Hinchliffe et al. 2005; Hofmeister 2009; Jorgensen and Tylecote 2007; Rink and Herbst 2011). It runs counter, however, to the notion most people have of cities: places with a clear sense of order and places where the needs of human life dominate: shelter, places to do business, ways to get around. Often, expectations for order and explicit human intent for the use of space extend to urban landscapes, and plants and animals with a more "wild" character, particularly those appearing where they are not intended, even if beloved or thought beautiful in the countryside, are considered "weeds" or "pests" in the city when they are found outside gardens or parks and other "sanctioned" places for plants and animals.

A common thread among definitions and understandings of the term "wild" as it relates to vegetation and animals pits the concept in opposition to things that are "tame" or "tended": the 2018 online *Oxford English Dictionary (OED)* definition of "wild" in regard to plants is "growing in a state of nature; not cultivated" and for animals is "living in a state of nature; not tame, not domesticated." In direct opposition, the same *OED* version defines "tame" as it applies to animals as "reclaimed from the wild state; brought under the control and care of man; domestic," and of plants plants as "cultivated, improved by culture; garden – as opposed to wild." The neat use of the term "nature" to explain what it

means for a plant or animal to be wild is tricky, because it is what Raymond Williams, in his influential book *Keywords: A Vocabulary of Culture and Society* offers as "perhaps the most complex word in the language" (Williams 1985, 219). What is meant by the term "nature" varies greatly, but it is not a concept that can reasonably appear without or in lieu of human influence or always outside the urban condition. Similarly, the idea of a plant that is not "wild" being one "improved by culture" is potentially problematic, culture being another highly contested term and one with many shades of meaning depending on the people, the plants, the history, and the context (Graham and Healey 1999).

Michel Foucault distinguishes between "utopias" and "heterotopias," arguing that the former "present society itself in a perfected form" but are "fundamentally unreal spaces" (Foucault 1984, 3). Heterotopias, by contrast, are "real places…absolutely different from all the sites that they reflect and speak about" and for Foucault, the primary heterotopias that exist today are "heterotopias of deviation" (Foucault 1984, 4, 5). While Foucault's heterotopias of deviation are physical places and feature human actors, the work herein adopts Foucault's ideas of heterotopia to the manifestations of plants and animals in urban places and spaces where people do not want them, where they, in individual and collective moments, inspire and elicit a kind of heterotopic experience for the humans who encounter them. These are not limited to the places where these plants and animals are found (for example, weeds on empty lots) but rather heterotopic plants and animals bring with them a kind of counter-utopic vision that thwarts and causes either reaction or reconsideration of plans for cities-as-utopias. When heterotopic plants and animals introduce moments of fear, revulsion, and encounter with "the other," they complicate humandriven notions of time, order, and human-focused urban space.

The terms "wasteland" and "vacant," among other terms have been deployed as pejorative descriptors for urban space unoccupied by humans or explicitly human activities. Matthew Gandy examines and advocates for an emerging and less overtly utilitarian vocabulary for these places where heterotopic plants and animals appear in cities. He argues: "by regarding nature differently, in both cultural and scientific terms, a set of counter discourses can be articulated that question the pervasive emphasis on wastelands as sites simply awaiting their erasure and development"(Gandy 2013, 1302).

These counter discourses might challenge prevailing adjectives used to describe urban spaces unoccupied by human activity where plants have emerged and succeeded, and in so doing, shift contemporary narratives and associated action towards more nuanced and sensitive treatments of heterotopic urban plants and animals and their found conditions.

Often, the words "wild," "wasteland," and "vacant" and the images they conjure up, are not associated with plans and planning for urban "nature." There are multiple schools of thought around planning for urban nature, a topic studied in greater depth in the following chapter. According to Draus and Roddy, "Social scientific writing on cities has historically evoked natural metaphors, while at the same time symbolically placing cities outside of nature" (Draus and Roddy 2018, 808). Many of these ecological metaphors derived from the Chicago School of urban sociology, a very influential theoretical perspective for planners throughout the twentieth century. However planners have less successfully incorporated natures into practice over the years. Robert Beauregard attests to this in *Planning Matter*

Planners are essentially humanists; they approach the world from a perspective that privileges humans over nonliving things and other forms of life. The things that matter in enabling plans to be realized are land use lawyers, pedestrians, planning directors, storeowner associations, automobile drivers, zoning officers, transportation planners, and neighborhood activists. Nature is placed in a subordinate position and exists mainly as a resource to support human life and as a world that humans act on (Beauregard 2015, 24).

Often with little to no concern for existing or future natures, urban renewal and other modernist projects that dominated mid-to-late twentieth century planning practice employed tactics of simplification, enforced legibility, and manipulation in order to create environments that could be more easily understood and controlled by "outsiders" and "experts" (Scott 1998). Those attempting to enact early modern planning often had a desire to regulate and control, and imagined a situation with unrestrained state power, and a populace not organized or equipped in sufficient ways to resist the forces of the state. Although in contemporary U.S. cities urban renewal per se is no longer a practice, there are still subtle and overt ways in which the ideas of simplification and ordering with singularly human priorities underlay much of what is created and re-made. In particular, this can affect more than just human residents of cities: plans and planners exclude plants and animals from existing and planned future urban

landscapes in many ways. Jennifer Wolch, in a formative piece on animals and cities, discusses how approaches that exclude nonhumans paint a picture of places that do not accurately reflect the myriad ways in which we co-habit places and spaces with "other" species:

The lexicon of mainstream theory, for example, reveals a deep-seated anthropocentrism. Urbanization transforms 'empty' land through a process called 'development,' to produce 'improved land' whose developers are exhorted (at least in neoclassical theory) to dedicate it to the 'highest and best use.' Such language reflects a particular perversion of our thinking: wildlands are not 'empty' but teeming with nonhuman life; 'development' involves a thorough denaturalization of the environment; 'improved land' is invariably impoverished in terms of soil quality, drainage, and vegetation; and judgments of 'highest and best use' reflect profit-centered values and interests of humans alone, ignoring not only wild or feral animals but captives such as pets, lab animals, and livestock who live and die in urban space shared with people (Wolch 1996, 22)

These anthropocentric orientations are often revealed through the language used to discuss planning and regulation of various parts of the city, and linguistic assumptions can have a direct impact on planning and design decisions (Corbin 2003).

When plans and planners engage with presumably "empty" land, they often problematize existing plants and animals as pests or nuisances to be removed and replaced with more "acceptable" forms of "wild" life. Ignasi de Solà-Morales cautions that planners and designers often miss the magic of places that have escaped planning attention and developed a unique magic of their own and are quick to cover them over with new plans and schemes that articulate dominant ways of thinking rather than appreciating the "otherness" that they can or could represent. He addresses such removal and replacement of found conditions in his influential essay, "Terrain Vague," describing this orientation as one that "seems incapable of doing anything other than introducing violent transformations, changing estrangement into citizenship, and striving at all costs to dissolve the uncontaminated magic of the obsolete into the realism of efficacy" (de Solà-Morales 1995, 112). Past and present planning and regulatory discourses assume that cities and the nature(s) that inhabit them must align with human order and plans and be palatable, in the form of gardens, parks, "green infrastructure" and nature "reserves." The idea of unintentional wildness (what de Solà-Morales calls "uncontaminated magic of the obsolete") as part of the urban fabric runs counter to the notion most people have of cities: places with a clear sense of order and where the

needs of human life dominate: shelter, places to do business, ways to get around. Plants with a more "wild" character, for example, particularly those appearing where they are not explicitly planted or intended, even if thought beautiful or useful elsewhere, are considered "weeds" in the city (Falck 2011; Mabey 2010).

Despite somewhat limited visions for unplanned vegetation and animals, environmental planning as a field has played a significant part in shaping urban history. Thomas Daniels traces what he calls five eras of environmental planning, from the "Progressive era" of the nineteenth through the early twentieth centuries to the present era, which he calls "Sustainability and the global environment" (Daniels 2009). Daniels evaluates the degree to which planning positively influenced environmental quality in each era. It would be vastly misleading to negate the significant accomplishments of urban environmental planning over the course of its history, but in many cases, the "urban" and "nature" were conceived of as separate entities alongside one another. Historically, urban parks and nature areas were created with intent to provide green spaces for growing urban populaces to find respite from city life, often as a form of social control and as real estate prospects. Great landscape architects and planners carried out bold visions for incorporating constructed "natural" landscapes into rapidly developing cities. Great urban parks, such as Central Park in New York City, were constructed to create experiences that might obscure the "urban" and lead people towards a common, civilizing experience of "nature." Other early works, like Boston's Emerald Necklace, were intended to serve both these social functions, but also "perform" like pieces of urban infrastructure, assisting with water flow and absorption among other things. Other urban environmental thinkers sought to create new models outside of city centers, like garden cities and "green" suburban developments that would take residents out of smoke and soot-filled city centers into idyllic perfectly ordered and mown places. With the rise of the environmental movement more broadly in the latter half of the twentieth century, environmental planners made significant changes in the trajectory of urban development, including, for example, removing stretches of highway separating urban dwellers from riverfronts, as with the installation of Tom McCall Waterfront Park in Portland, Oregon. Efforts to unearth channelized urban rivers also emerged during this period, and are still ongoing, as with for

example the Los Angeles River. These are a few examples of the incredible work of environmental thinkers over the course of urban environmental planning history, though in many cases over the course of this history, dualistic thinking persisted, with "nature" being on one side and "urban" on the other.

In the last few decades, several growing bodies of literature are complicating commonly accepted discourses of urban nature. While early urban ecology research sought to study ecology "in" cities, more recent urban ecological studies assume non-equilibrium theoretical bases that explicitly include humans and human activity as part of the urban ecological network (Alberti 2016; McDonnell 2011). These approaches do not simply pit humans against "nature," but attempt to interpret the many ways in which humans and nonhuman interactions co-create ever evolving urban ecological dynamics. Some empirical work in this area is the Baltimore Ecosystem Study, a project that has been underway for over twenty years since the establishment of a Long Term Ecological Research site in that city (Pickett and Cadenasso 2006). As a way of making more explicit connections between urban ecology and urban planning, Scholar and thought leader on urban ecological planning and landscape architecture Frederick Steiner suggests the need for planners and designers to collaborate more with ecologists and adopt an ecological and geological understanding of change and time, rather than seeing designs and plans as "fixed permanent solutions" (Steiner 2014, 310).

Late twentieth- and early twenty-first century theorist Bruno Latour imagines an end to previous efforts to distinguish between "nature" and "society," instead arguing that a "proliferation of hybrids," complex manifestations that cannot be neatly categorized one way or the other, complicates and ultimately negates the possibility of such a separation (Latour 1993, 51). Drawing upon the work of previous authors using the metaphor of a cyborg, most notably Donna Haraway, Erik Swyngedouw extends Latour's argument specifically towards the urban realm when he posits the "modern city as a process of fusing the social and the natural together to produce a distinct 'hybrid' or 'cyborg' urbanization," one in which "nature becomes urbanized" (Erik Swyngedouw 2006, 106). There is no room in Swyngedouw's vision for a historical or contemporary divide between urban and nature, rather for him, "the urban world is a cyborg world, part natural and part social, part technical part cultural, but

with no clear boundaries, centres, or margins" (Erik Swyngedouw 2006, 118). Swyngedouw and his contemporaries founded a theoretical approach called Urban Political Ecology, a field of inquiry that draws on Marxist theory and adopts a relational concept of nature (Gandy 2015).

Finally, a growing number of scholars are specifically investigating plants and animals and their role as members of urban communities. Geographer Matthew Gandy advocates for a less overtly utilitarian vocabulary for "waste" spaces in cities, arguing in favor of re-framing "marginal spaces of nature as a vibrant dimension to urban life...[suggesting that] the recognition of terrain vague within the public realm introduces possibilities for cultural and scientific autonomy that invert or unsettle bourgeois conceptions of nature" (Gandy 2013, 1311). Probably the most prominent examples of this theoretical orientation in practice are in Berlin, where efforts to re-define and re-design meanings of "urban wilderness" have been ongoing since at least World War II (Rink and Herbst 2011; Sukopp 2008b). This orientation aligns well with scientists and other scholars studying "novel" urban ecosystems, those comprised not only of desired native species, as valid and having potential benefit, despite challenges to prevailing conservation theories and practices (Kowarik 2011). Botanist Peter Del Tredici has written extensively about re-thinking possible benefits of "weeds" in cities, for him "spontaneous urban vegetation" (Del Tredici 2010a, 2010b, 2014). Recent empirical work in this area investigates humanplant relationships (Head and Atchison 2009), calls for animals to become part of urban planning and design processes (Weisser and Hauck 2017) and posits how mutually produced assemblages of urban humans, animals, and things might re-frame policy approaches to urban ecology and environment (Draus and Roddy 2018). These approaches collectively seek to re-frame the position of humans as singular dominant "top-down" planners and designers of cities, and to invite plant and animal agency and wellbeing into discourse on urban life.

Theoretical Framework

For this project, building on and extending the lines of inquiry in the literatures discussed above, my central research questions are: (1) What theoretical positions towards urban "natures" exist in

contemporary planning scholarship, and why? (2) Why are heterotopic "other" species devalued and treated as waste in planning discourse and practice?² and (3) How can planning as a discipline move deliberately toward theory and practice that plans for urban plants and animals in relational ways? Planning discourse is both embedded in the day-to-day environment and intricately linked to discourse and action of many other fields. This project adopts a Foucauldian view of discourse, viewing the concept in terms of bodies of knowledge rather than simply linguistic qualities. Alec McHoul and Wendy Grace describe this approach: "Foucault's idea of discourse shows the historically specific relations between disciplines (defined as bodies of knowledge) and disciplinary practices (forms of social control and social possibility)" (McHoul and Grace 1993, 26). This understanding of discourse seeks both to make sense of the language being used by different people and different disciplines, and also how that language is tied to larger disciplinary knowledges that are intrinsically connected to desire for power and control. Planning as a discipline perhaps even more so than others has a history and present practice explicitly linked to attempts to control and regulate the various moving parts in cities and further afield: bodies, buildings, traffic flow, water access and many other things. Thus, it is practically impossible to disentangle the discourse of planning as a field of practice from the discourse of scholars analyzing and critiquing practice. What this means for urban planning is a distinct blend of theory and practice rooted in a complicated and always-unfolding history. José Barchilon, in the introduction to the 1965 English translation of Michel Foucault's Madness and Civilization: A History of Insanity in the Age of Reason, describes how the work re-creates "yesteryear's madness and the ineffective attempts of humanity to treat it by amputation, projections, prejudices and segregation" (Foucault 1965, viii). This project similarly attempts to re-create the "wildness" in several moments of the District of Columbia's history along with ineffective planning attempts to control, erase, and destroy it.

The work herein builds on the work of scholars in relational geography, who suggest that modern dichotomies between concepts like "urban" and "nature" are untenable and might rather be viewed as a

² I am drawing on Michel Foucault's concept of heterotopias, "real" places and sites of deviance and messiness, in contrast to utopias which "present society itself in a perfected form" (Foucault 1984, 4)

set of relations between interconnected systems (Karvonen and Yocom 2011). Geographer Owain Jones describes how

Abandoning these longstanding habits of thought opens up an exciting conceptual landscape in which the world is no longer fixed by some timeless and essential nature, but instead is understood as the ongoing outcome of myriad entanglements of elements and processes spanning both sides of the supposed divide of old between nature and culture (Jones 2009, 295)

For Jones, this new way of thinking enables a focus on "relationality, flows, networks, and ecologies."

For the purposes of this project, that means the ways we think about and theorize and make policies and plans for natures are related to and have an impact on the physical manifestation of particular plants and animals; the behaviors and activities of those plants and animals are related to flows of human waste and building practices; the ecology of the city is an ever-changing network that includes both nonhuman and human life.

Social construction theory situates this work in particular times and places, and posits that if "nature" has been and is constructed to mean something specific in a particular time and place, we also have the ability to unmake and re-make these meanings:

Constructionists insist that things are not as they seem. The metaphor of construction enables them to argue that what we had once accepted as self-evidently pre-ordained and inevitable is in fact contingent and might conceivably be remade in some other way, if only we would try (Demeritt 2002, 775).

Advocates for the social construction of nature argue for the importance of recognizing social, cultural, and historical context in the ways that various nature(s) are produced, interpreted, and understood (Cronon 1995a; Soper 1995). Planning discourses related to "urban nature" often align with a set of urban ecological narratives related to human intentionality and "restoration" of plants and animals native to the city's region. Often these discourses assume that in order for "nature" to be present in an urban setting, it must either be planted and tended to, or pre-existing or "untouched" and designated as apart from human influence. These discourses have been constructed by literature, media, and cultural stories crafted to support them, and though disentangling them is no simple matter, re-making discourses of urban nature may have the power to re-introduce more nuanced and holistic approaches to planning with and for heterotopic urban plants and animals.

Those arguing for relational planning practice contend that:

We need to imagine an emerging, multi-layered, 'networked urbanism' based on complex webs and lattices of connectivity and flow, both within and between the territorial boundaries of cities and municipal jurisdictions. (Graham and Healey 1999, 639)

However, often these conceptions of relationality are based nearly exclusively on human concerns, framing the most important, perhaps sometimes the only, actors as human. In explicating how urban plans and planning processes construct and attribute particular meaning(s) to heterotopic plants and animals in cities, this work draws upon Robert Beauregard's call for planners to move from "sociability to socio-materiality" and to make nonhuman things our allies (Beauregard 2016). Beauregard's theoretical frame, centered largely around "things" one might expect to be part of planning practice (e.g. plans, communication devices, pieces of infrastructure), is applied here specifically to planning and regulating urban plants and animals.

Taken together, relationalism, social construction, and new materialism have much to offer, however these theoretical frames are not completely harmonious. In particular, social construction theory prioritizes the field of language and discourse, de-emphasizing the importance of the material in constructing understandings of the world, while new materialism asserts the importance of materiality and the very thing-ness of tools planners use and the places and things planners plan with and for. This tension is not unresolvable, though, and this work joins other scholars in testing the boundaries of these theoretical positions, and finding points of intersection. With relationality as the overarching theoretical frame, social construction and new materialism, even if seemingly opposing viewpoints, cannot exist in isolation, but perhaps are even enriched and further deepened in tension with one another and in dialogue with multiple inter-related things and ideas that intersect and interact in complex and varied ways (Figure 1.1).

Relational Framework

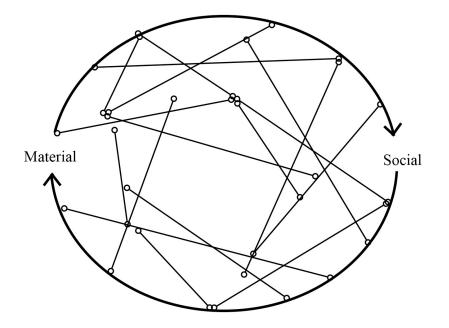


Figure 1.1. Social construction and new materialism interweave with relational interconnectedness.

Cases and Methods

In the chapters that follow, several distinct cases advance my central argument about the need to plan for urban plants and animals in relational ways that acknowledge both social construction of "natures" and immediacy and importance of nonhuman materiality as part of urban life (Figure 1.2). In Chapter 2, "Vocabularies of Urban Natures," urban planning scholarship in the late twentieth and early twenty-first centuries is examined to understand discourses and particular language used to describe and discuss nature in cities. In particular, this chapter is a thematic and textual analysis of articles from five prominent planning journals between the years 1995-2017 (Carpenter 2002). The year 1995 is selected as a starting point because discussions in planning scholarship after that year take into account and reflect a few key works, including William Cronon's "The Trouble with Wilderness" and Scott Campbell's "Green Cities, Growing Cities, Just Cities" (Cronon 1995a; Campbell 1996). Each of these pieces, published in the mid-1990s, reframed ideas of nature and wilderness to incorporate social construction and question "business as usual" definitions for planning scholars and practitioners. In order to understand the ways in which selected articles theorize nature(s), each article was analyzed with two rounds of coding using the annotations and thematic coding features of NVivo Pro for Windows. After the first round of open coding, several themes were identified and a second round of more focused coding of the themes in each article determined the specific themes explored and discussed in Chapter 2.

Following Flyvbjerg (2006), case selection for the geographically focused chapters of this dissertation employ a "critical" case method. According to Flyvbjerg, a "critical" case is one that has "strategic importance in relation to the general problem" (Flyvbjerg 2006, 229). Washington, D.C. is a city with unique characteristics and history in the United States and the world, and the city's influential McMillan Plan (that some call the first comprehensive plan in the nation), the early adoption of a weed removal act compared to other cities, and the uniqueness of the city's planning and regulatory efforts related to urban wildlife make it a case with strategic importance, both intrinsically and for the influence that planning and regulatory practices in Washington undoubtedly had in shaping the rest of the country's approaches towards nature, weeds, and wildlife.

Chapter 3 briefly examines the history of the relationship between urban planning practice and nature, and offers the first of three case studies of planning and regulating wildness in Washington, D.C.: the premier planning effort of the time, the McMillan Plan for improving the park system of Washington, D.C. With high expectations for order and simplicity, there was little room for weeds or messiness in the report authors' vision for the city. Chapters 4 and 5 are a pair of cases in which planners and lawmakers attempted to regulate "wildness" in Washington, D.C., one at the turn of the twentieth century, contemporaneous with the McMillan Plan ("Regulating Weeds") and one in the early years of the twentyfirst century ("Regulating Wildlife"). These attempts to regulate wildness were predicated on very particular vocabularies of nature, accepted as common during their respective times. In 1899, the United States Congress passed an Act for the removal of weeds from lands in the District of Columbia. Weeds were constructed as a problem for multiple reasons: health, aesthetic, threat to public safety, completely antithetical to "nature" as defined and embraced in the McMillan Plan (Chapter 3). In contrast, in 2010 District of Columbia lawmakers passed an act to protect wildlife in the city, regulating the manner in which residents and wildlife control operators could interact with certain species. Finally, the 2015 Wildlife Action Plan identifies particular species for preservation based on a Federal mandate to conserve Species of Greatest Conservation Need, another route towards regulating and managing the particular types of animals that can and will inhabit the District of Columbia.

Often research with archival methods faces the challenge of abundance, sifting through vast amounts of material in order to select the most pertinent evidence. The project of constructing histories of weeds and wildlife in cities is quite the opposite, for textual and visual documentation is much more scarce for unbuilt parts of planning history. For "Regulating Weeds," methods primarily included archival research in several physical locations as well as digitally (Zeisel 2006). Documents were discovered in the Kiplinger Research Library of the Washington Historical Society as well as in the District of Columbia Government Documents files of the National Archives of the United States of America. Records consulted include annual reports of the Board of Commissioners from the late nineteenth century through the 1930s, records of the Board of Health and the Health Department, cartoons and images from the time period, Board of Commissioners Minutes and Orders from the time period, and records of the United States Congress Committee on the District of Columbia from the 55th and 56th Congresses. Digital documents were primarily newspaper articles, the majority from the *Washington Evening Star*, from 1890-1930. For Chapter 5, methods included archival research at the Kiplinger Research Library of the Washington Historical Society and textual analysis of the 2010 Wildlife Protection Act and associated documents and materials, as well as textual analysis of the 2015 Wildlife Action Plan and other documents and materials.

The concluding chapter, "Planning Without Wildness," proposes shifts to contemporary planning and regulatory discourse and theory around urban plants and animals, suggests implications for planning practice, and introduces an agenda for relational cities of the future. The final chapter also charts out future research directions to elaborate upon themes introduced in this work, increase geographic and historic generalizability, as well as to explore additional methodologies and new topics that extend the work begun here. The aims of the project as a whole are outlined in Figure 1.2: to use a relational, constructed, material theoretical framework to analyze each case and develop a holistic socio-material complication of the ways in which planners and lawmakers have previously planned for "urban nature," with an eye towards reformulating "urban wildness" to relational cities as an overarching goal for planning theory and practice.

To begin, in the following pages we turn to an examination of the use of the word "nature" in prominent urban planning journals over the last two decades. Beginning this way with vocabularies of urban nature will position the discussions that follow in subsequent chapters in reference to a set of terms that comprise various, sometimes contradictory discourses and theoretical orientations. This will allow for both an orientation to the literatures in relevant fields as well as a starting point for critical analyses that follow.

Regulating Wildness

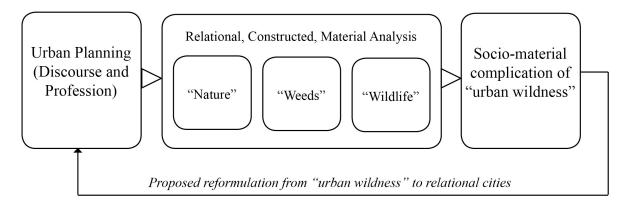


Figure 1.2. Regulating Wildness Framework

Chapter 2 Vocabularies of Urban Nature in Planning

Representations of nature, and the concepts we bring to it, can have very definite political effects. (Soper 1995, 9)

Cultural theorist Raymond Williams identifies the term "nature" as the most complex word in the English language (Williams 1985). Contemporary planners and plans deploy the term and its associated meanings in different ways to support a variety of planning goals. The language used to conceptualize and deploy physical manifestations of "nature" has a direct effect on the ways in which natures (plural) are perceived, understood, and constructed, materially and symbolically. The term has a rich and varied history, and a plethora of associated meanings. Tackling the entirety of theoretical and material positions toward nature(s) would require far more than one chapter; in this case, Williams's third strand of three basic points of departure for nature meaning is of greatest interest, that of nature as "material world itself," as opposed to nature as "essential quality" or "inherent force" (Williams 1985, 219). Though Williams concedes that his definitions are not mutually exclusive and do influence one another, the former definition most closely aligns with the types of "nature" urban planners interact with, create, and have a stake in.³ While Williams offers that theories of nature as "material world" may or may not include humans, a great deal of discourse, including that of some planning scholars, positions "nature" as ontologically distinct from humans and/or society. This distinction is an imaginary, and one possibly as philosophically fraught as attempts to distinguish "madness" from reason, which Foucault describes as impossible: "...madness and non-madness, reason and non-reason are inextricably involved: inseparable at the moment when they do not yet exist, and existing for each other, in relation to each other, in the exchange which separates them" (Foucault 1965, x).

The theoretical orientation positing "nature" and "humans" as ontologically distinct has been significantly challenged in recent years by several strands of thinking that imagine not a singular monolithic "nature," but rather multiple natures that are constructed, produced, and created socially,

³ An exception might be planning for natural disasters and hazards, which might be more specifically concerned with nature as "force."

politically, and through relations between various actors and processes. One key question about advancement of these latter types of thinking is the degree to which more complex and nuanced conceptions of natures remain a theoretical project without direct influence on the way humans act on and interact with the social and material world (Karvonen and Yocom 2011). While there are some advancing new ways of thinking natures in practice (e.g. Kinder 2011), the majority of scholarly work under study here that departs from ontological distinctions between "human" and "nature" critiques practice, but is not positioned in the way conventional planning scholarship might be to directly inform and assert a positive role for re-thinking natures on the ground. Increasing dialogue between and among planning scholars about nature(s) and the ways in which they are produced, constructed, and created might invigorate decades-long work in environmental planning, inspire important changes to business-as-usual planning practice and introduce greater complexity to general understandings of urban nature.

Of particular interest for this project is how conceptualizations of natures in planning scholarship and practice address certain plants and animals commonly known as weeds and pests. Understanding planning approaches towards "undesired" plants and animals can reveal implicit biases towards them, which may beg further investigation. Such approaches fundamentally oppose the idea of relationality: If planners treat weeds and pests as separate and waste products to be eliminated without consideration, this reveals an orientation that establishes and reinforces an "us and them" mentality, running counter to the inescapable and intrinsic relations between humans and nonhumans. Further, distinguishing desirable "urban nature" from particular plants and animals that are undesired and "not nature" reveals compartmentalized dualistic thinking and practice that does not allow for gradients and shades of gray that offen present themselves in real-life planning situations. This runs the risk of exclusively emphasizing order in the vein of "top-down" modernist planning, which James C. Scott warns against in his formative *Seeing Like a State:* "The more schematic, thin, and simplified the formal order, the less resilient and the more vulnerable it is to disturbances outside its narrow parameters" (Scott 1998, 351). Challenging planning and regulatory practices that aim exclusively for order and predictability may result in more complex and resilient configurations that lend themselves to weathering changes that accompany growth and the passage of time.

To what degree, for example, are "heterotopic" specimens, appearing and behaving in ways that flout desired urban nature "norms" included in dialogue about urban natures (Foucault 1984)? Through close readings of a set of contemporary papers in prominent planning and planning-related academic journals, this chapter interrogates contemporary planning discourses of urban nature, weeds, and wildlife and analyze vocabularies/languages used to discuss them. Ultimately, this chapter questions what is missing from the present discourses and languages that planning scholars use to discuss nature(s), what nature(s) are and are not being talked about, and why we use certain terms to talk about some natures, while other things (such as weeds and rats, for example) are not thought of as part of these constructions of "nature."

Natures in Planning History

From its early days, the planning profession adopted ideas and theoretical positions and approaches from other fields, and therefore discourse in the field as early as its inception can be imagined as borrowing from and relying heavily on other disciplines such as political theory, architecture, and sociology, among others. Robert Beauregard, in his recent book *Planning Matter*, speaks to this tendency:

Central to both the credibility of planning theory and planning's academic status, then, is linking planning arguments to intellectual projects outside the discipline. These intertextual connections enable planning theorists to simultaneously publicize their involvement with the broader field of scholarship, enhance their scholarly status, and explore ideas that transform the way they think about planning. (Beauregard 2015, 196)

But what are the unique contributions planners and planning scholars have contributed to philosophical and practical conceptions of nature? What unique theoretical frames and vocabularies of nature(s) have been used prior to this study? Jennifer Light, in her book *The Nature of Cities*, traces early analogies that city planning professionals and scholars drew between cities and ecosystems, the restoration of cities and natural resources management, and neighborhood conservation and renewal with ecological conservation and restoration theory and practice (Light 2009). While the vocabulary used to draw these analogies did

not necessarily refer to "nature" directly, but rather to exclusively human issues, it represents some of the most common early usages of nature and nature-related words used by planning scholars and professionals to discuss urban plans and planning. Thomas Daniels introduces a set of issues key for environmental planners in several eras of environmental planning, which can be a proxy for vocabularies the planners used to understand urban natures. These include, in chronological order, parks, garden cities, wilderness, conservation, ecological planning, environmental impact assessment, sustainability, and urban ecological planning (Daniels 2009). While urban planners were certainly not the only professionals using these vocabularies, they clearly set a precedent for the types of planning language and discourse present in contemporary practice and scholarship.

One of the areas of planning in which nature discourse takes place most frequently is in and around planning for urban parks. While some of the most beautiful and health-promoting places in cities are parks, the discourse around them also often suggests that "nature" only exists in these designated areas in cities. This orientation is prevalent in both scholarly discourse as well as in professional settings, such as at annual gatherings of planning professionals where there is very little "talk" of nature, but for a few sessions each year on park planning. Following a theme that will continue throughout this chapter, the most problematic aspect of planning discourse on urban nature is not the quality of it, but rather the quantity. If "nature" is primarily seen as only occurring in parks, and discussion about it is limited to infrequent papers and sessions on planning for them, this seriously limits the range and breadth of conversations and dialogue that might otherwise enrich planning discourse at large.

Methods

How can one begin to account for the present discourse on a topic within a field as varied and diverse as urban planning? In order to approximate planning scholarship about urban nature, I conducted a mixed-methods appraisal of academic discourse, combining quantitative analysis of the frequency and distribution of the term "nature" and related terms in contemporary planning scholarship with qualitative thematic textual analysis of how "nature" and related terms are deployed (Figure 2.1). Literature for

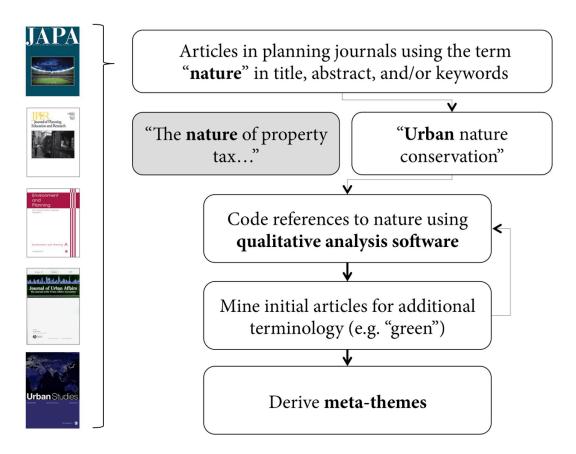


Figure 2.1. Methodology

analysis is limited to five prominent planning journals: *Environment and Planning A*, the *Journal of the American Planning Association*, the *Journal of Planning Education and Research*, the *Journal of Urban Affairs*, and *Urban Studies*.⁴. In 1995, Environmental Historian William Cronon authored an influential and controversial essay, "The Trouble with Wilderness" in his edited volume, *Uncommon Ground*, which issued a strong critique of "commonly accepted" ideas of nature and wilderness as socially constructed and not infallible or universally "true" (Cronon 1995a). A flurry of academic debate and discussion followed this publication, including Scott Campbell's widely cited *Journal of the American Planning Association* article "Green Cities, Growing Cities, Just Cities?" (included within articles analyzed in this

⁴ The *Journal of Planning Education and Research* was included in the initial search, but no articles in the selected timeframe met the search criteria.

chapter), after which urban planning discussions about natures shifted into new territories (Campbell 1996). Using these works as touchstones, in an effort to analyze "contemporary" discourse, articles in the selected journals from the year 1995 and later are included in this analysis.

In order to identify specific articles for analysis, I searched for any and all work with the term "nature" in the article title, subject headings or keywords, and/or abstract. Resulting articles were evaluated for relevance; those using the term "nature" in ways not germane to the definition under study were excluded (for example, "the nature of property tax"). Book reviews, commentaries, editorials, and literature reviews were excluded in order to limit analysis to work specifically prepared for and accepted as original research by each journal.⁵ After the initial search and elimination of articles using the term "nature" in irrelevant ways, the vast majority of articles for review were from the journal *Environment and Planning A*, perhaps unsurprisingly due to the mission and environmental focus of that journal.

In order to focus analysis on urban nature, only articles making some specific reference to "urban" issues (e.g. "urban nature," "urban assemblages," "urban ecological politics") were selected from the initial pool (*Table 2.1*). While the majority of articles under consideration are still from *Environment and Planning A*, narrowing to articles with an explicitly "urban" focus somewhat balances the distribution, preventing the analysis from becoming overly biased by what one particular journal accepts and promotes as "nature." This narrowing is problematic if extended too far, however, because distinguishing between discussions of "urban" and "not-urban" are just as fraught as disentangling one conception of nature from another, and some scholars argue in favor of "urban" research that deals with geographies and materials outside of "traditional" city boundaries (Mcintyre, Knowles-Yánez, and Hope 2000; Angelo 2016). In addition, while focusing on articles using the term urban guarantees they will relate in some way to issues around cities, just because an author did not choose to use the word "urban" urban" and "urban" are just as fraught as disentangling one conception of nature from another, and some scholars argue in favor of "urban" research that deals with geographies and materials outside of "traditional" city boundaries (Mcintyre, Knowles-Yánez, and Hope 2000; Angelo 2016). In addition, while focusing on articles using the term urban guarantees they will

⁵ Interestingly, significantly more book reviews than original articles in two planning journals make reference to the term "nature" (*Journal of the American Planning Association*: 19 book reviews; *Journal of Planning Education and Research*: 11 book reviews). This might suggest either that those writing about "nature" as it pertains to planning may seek to publish these types of works outside of academic journals or that the journal mission, publication tendencies, and/or submission guidelines do not allow for these types of inquiry.

Journal		No. of Articles	Limited to "Urban"
Environment and Planning A		87	19
Journal of the American Planning Association		9	6
Journal of Urban Affairs		1	1
Urban Studies		9	9
	Total	106	35

Table 2.1. Number of articles referencing "Nature" in planning journals, 1995-2017

does not mean that paper's discussion will not have relevance to urban places and issues, whether within city boundaries or not.

Articles selected for inclusion were read closely, and references to "nature" and related vocabularies were coded using the Qualitative Data Analysis software NVivo 11 Pro for Windows. I used open coding to note all words used to define, describe, or refer to natures and related concepts. After coding all thirty-five articles, I consolidated a few codes that had similar meanings (e.g. "degraded" and "exploited" became a single code), then compiled the results visually in a series of bar charts to demonstrate quantitative variations in nature vocabularies by journal and by authors' disciplines. Through analysis of vocabularies used to discuss natures, I derived general theoretical positions appearing in each article, denoting when theories were asserted as well as when they were active critiques of theoretical positions. This analysis resulted in a total of eighteen themes across the thirty-five articles. Initial themes were tied very closely to the language of each article, with themes such as "aesthetics," "environment," and "preservation." From these themes, seven meta-themes approximate the range and variety of vocabularies of urban natures that appear in planning scholarship at the turn of the twenty-first century.

Vocabularies of Urban Nature(s)

Particular words used to define and describe urban nature(s) carry very specific meanings, and can affect and deeply influence the ways in which material conditions are manipulated and politics are carried out. Some of the most challenging vocabularies to contest are those that seem the most "common sense" or deeply entrenched in theory and practice. Within the articles under study, there are several key words most commonly used to define and discuss nature(s), and these words have associations and effects that extend the theories discussed in the following section. These vocabularies affiliate specific authors with particular trends and ways of thinking, often reflected quite readily in planning practice more broadly.

In the thirty-five articles under study, the most frequently coded words to discuss natures are reflected in **Figure 2.2**. The "top five" terms used across all articles (with at least 40 references each) are: "Green," "Ecology," "Discourse," "Wildlife," and "Protect/Conserve." Two of these terms, "green" and "protect/conserve" evoke a theoretical position of a singular "nature" as normative ontological object (addressed further in the following section), while the other three are used throughout the articles to support various theoretical viewpoints.

Examining the breakdown of terminology present in each journal, further differentiation emerges. Because *Environment and Planning A* has the greatest number of articles (19), there is consequently the richest and largest volume of vocabulary in that journal. However, it is interesting to compare most frequent terms used (and those not used) in this journal with those in other journals, as not only the frequency but also the variety and type of terms reveals the theoretical range of discussion of various "natures" in each journal (see *Table 2.2*). Perhaps one of the more compelling comparisons may be made between nature vocabularies in the *Journal of the American Planning Association* and those in *Urban Studies*: despite a relatively similar number of articles examined from each journal (6 from the *Journal of the American Planning Association*; 9 from *Urban Studies*), the types of words and concepts used to

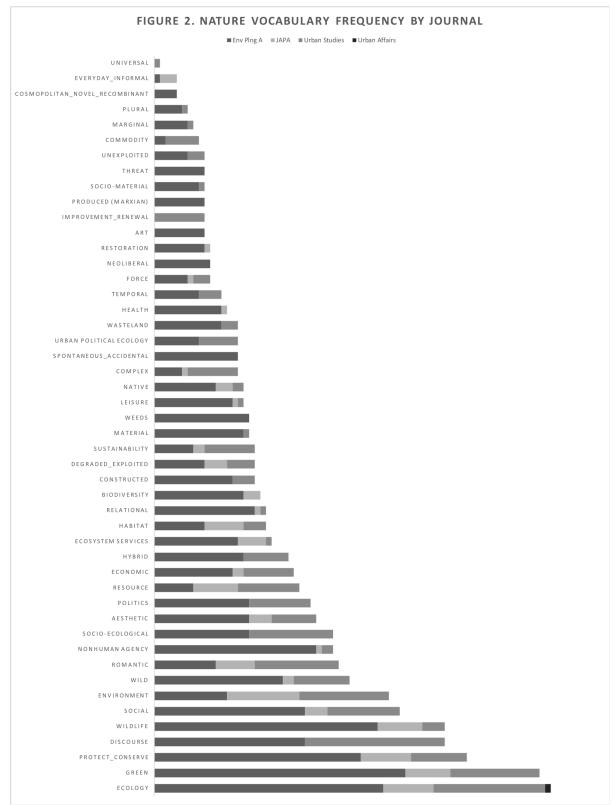


Figure 2.2. Nature Vocabulary Frequency by Journal

describe natures are significantly fewer in the former. By comparison, more than twice as many codes are *not* present in *Journal of the American Planning Association* articles as compared to *Urban Studies*.

On the whole, considering the works contained in the five journals under study here, a rich and varied nature vocabulary is evident. Nearly fifty different types of words are used to describe, discuss, and deliberate nature(s), with varying frequency and theoretical intent. However, a final vocabulary frequency comparison based on authorship rather than journal reveals discrepancies between planning and other scholars' word choices. While an author's discipline can be somewhat fluid (and may change over time or based on institutional affiliation), in order to approximate authorship for this study. I examined the reported disciplinary affiliation at the start of each article, then roughly categorized these affiliations into six categories: Planning, Geography, Urban Studies, Sciences, Social Sciences, and Other. In order to capture as many authors affiliated with planning as possible, any author (regardless of order listed) who noted planning as an affiliation was counted among the "planning" articles; while all other articles were categorized based on the first author's listed affiliation. Figure 2.3 shows the coding frequency of planning scholars' nature vocabularies compared with all other disciplines combined. While the numbers (and hence the visualization) clearly are affected by the low number of nature-related articles authored in planning journals and by planning scholars, the relative infrequency of planning scholars' work on natures and consequently significantly less rich and varied vocabularies used to describe nature/s is still evident. This suggests that planners may not be initiating and/or leading discussions about the role of nature in cities and city planning.

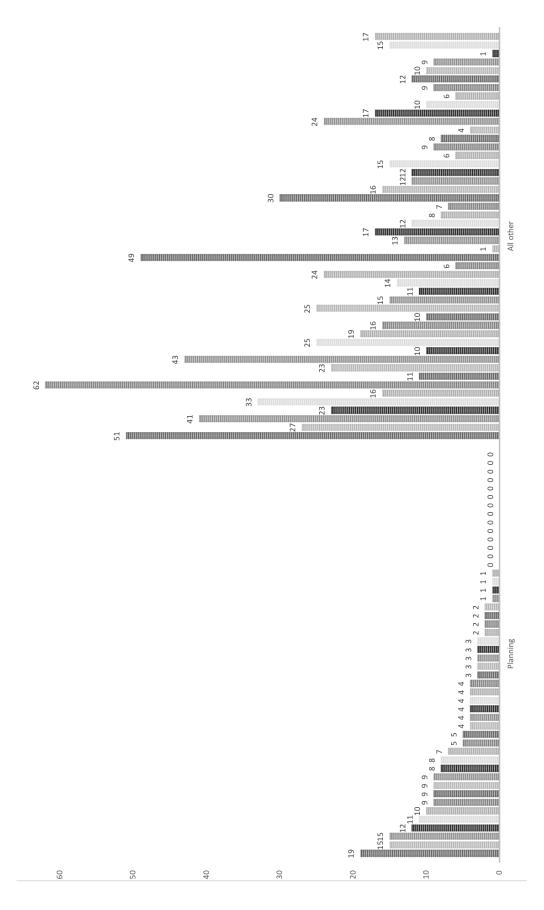
To briefly touch on the larger themes of this project, discussions of "wildlife" feature much more prominently than those of "weeds" throughout the articles under study (see **Figure 2.2**). Over twice as many references are made to issues pertaining to wildlife, along with an additional small number related to "habitat." This trend is consistent when compared to references made by planning scholars, as reflected in Figure 2.3 – "wildlife" is among the top ten terms discussed in articles authored by planners, but "weeds" are not mentioned at all. Though it is important to recognize that the sample size of articles here

is quite small, the available data suggest that weeds are not considered part of planning discussions of

"nature," and therefore must be theorized as something else entirely.

Journal	Top five codes used	Codes not present
Environment and Planning A	 (1) Green (2) Ecology (3) Wildlife (4) Protect/Conserve (5) Nonhuman Agency 	Improvement/Renewal, Universal
Journal of the American Planning Association	 (1) Environment (2) Ecology (3) Protect/Conserve (4) Green (5) Resource 	Art, Commodity, Constructed, Cosmopolitan, Discourse, Hybrid, Improvement, Marginal, Material, Neoliberal, Plural, Politics, Produced, Socio- ecological, Socio-material, Spontaneous, Temporal, Threat, Unexploited, Universal, Urban Political Ecology, Wasteland, Weeds
Urban Studies	 (1) Discourse (2) Ecology (3) Environment (4) Green (5) Romantic 	Art, Biodiversity, Cosmopolitan, Everyday, Health, Neoliberal, Produced, Restoration, Spontaneous, Threat, Weeds

Table 2.2. Top five codes compared with terms not present by journal





Planning's Natures

Given that urban planning is a field with relevance to every aspect of cities and development, it seems surprising that there is relatively little recent research published pertaining to nature in flagship planning journals (approximately one hundred articles of approximately 25,000 in just over twenty years). Part of this might stem from planning research and scholarship's emphasis on people and process, though recent scholars have called for expansion of this view to include more of planning's context and objects (Fainstein 2005) as well as nonhuman inhabitants and things, both living and non-living (Hinchliffe and Whatmore 2006; Beauregard 2012). Another consideration is perhaps the use of the term "nature" itself – it is possible that planning scholars refer to nature(s) using other terminology, such as "green" or "ecology." The prevalence of "nature" discussion in *Environment and Planning A*, however (much of which also includes terms such as "green" and "ecology"), suggests that this is likely not the case. Even when distinguishing one's work from the term "nature," it is a very common and entrenched term, and one scholars are likely to at least reference as a starting point or foil for their own argument and rationale for departure from allegiance to "nature" as a construct.

While it is impossible to distill a single theme or theory for any given article, each piece studied here has a range of several themes that fall generally into one of two broad categories: (1) treating nature (singular) as an ontological object that either acts upon or is acted upon by humans or (2) treating natures as plural and constructed or co-produced by humans (Figure 2.4).

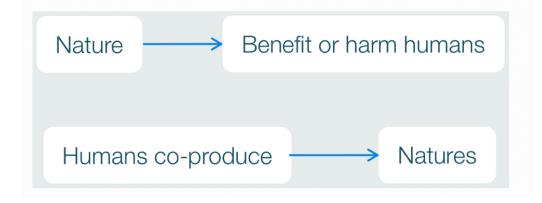


Figure 2.4. Two Starting Points for Nature Theories

The essential difference is the initial point of departure: is "nature" a normative thing that exists that we can study, following on dichotomous thinking (modernity, etc.) or are "natures" plural and unfixed ideologies that we weave and create for ourselves in particular points in time? One might argue that in order to identify and study causal effects (such as often found in highly quantitative studies), treating "nature" as an ontological object is an essential step towards making any kind of claims about cause and effect. However, alternate theories and literatures would counter the possibility of distilling "nature" to a "thing," suggesting that even to empirically study objects identified as "nature" must a priori involve admission, acknowledgement, and identification of socio-ecological-political forces at work that produce and create conditions as they exist at particular points in time.

As discussed above, two major strains of thought appear throughout contemporary planning scholarship on nature(s): the first a theoretical position of humans as co-producers of plural natures (*Table 2.3*), and the second adoption of a singular "nature" as ontological object which benefits or harms humans in some way (*Table 2.4*). One tempting interpretation of these different strains of thought is to see these two theoretical strains as discursive vs. material, or perhaps even qualitative vs. quantitative. These distillations are not tenable, though, because within each strain of thinking, and most particularly in relational theories, theorists are arguing at once for material production and admission of the relation between discourse and materiality (i.e. it's not just talk, it's also how that talk is reflected in action/things on the ground). But in some ways, there is almost an overarching difference in how researchers/theorists/authors are seeing the world - as discursively constructed (created via human imagination) as opposed to something material and "out there" that can be studied, measured, tested, etc. Methodologically one could be in either camp, but there is a strong feeling of the qualitative about the construct/produce strains of thought and the quantitative about the helps/harms thinking.

Theory	Means	Example
People Construct Natures	Discourse, Narrative, Framing, Social, Material, Politics, Storytelling, Design, Software/code	"Through these popularized narratives of nature, as an ameliorator of social tensions, the Black Country Urban Forest has been constructed as an ecological frontier through which social tensions as well as ecological injustice can be tackled." (Whitehead 2003, 1200)
People Produce Natures	Art, Architecture, Writing, Science, Politics, Political Ecology	"The social production of nature has been willfully ignored, obscured, and forgotten for nearly two centuries because, however untenable, notions of a dehumanized nature have been extremely useful in projects of capital expansion and political scapegoating." (Kinder 2011, 2441)
Relations between humans and non- humans co- produce Natures	Interconnections, Feedback loops, Material circulations	"The idea of the environmental imaginary [treats] nature as constitutive of the modes and objects of urban governance, thereby eroding the analytical value of the natural- social distinction." (Cowell and Thomas 2002, 1242)

Table 2.3. Natures as fluid, socio-politically-ecologically situated

Table 2.4. Nature as normative ontological object

Theory	Action	Example
People Harm	Degrade, damage, consume,	"Humans were conceptualized as either
Nature	control, manipulate	interacting through markets or as
		damaging natural resources." (Forsyth
		1997, 57)
People Help	Preserve, protect, conserve, manage	"Regulations are but one tool for riparian
Nature		protection." (Shandas 2007, 173)
Nature Harms	Threaten, Frighten, Offend, Destroy	"Human beings have no specially divine
People		light, no purpose. Rather, like everything
		else in nature, creatures amongst other
		creatures, they are subject to decline and
		decay." (Lavery, Dixon, and Hassall 2014,
		2574)
Nature Helps	Promotes physical/mental health,	"How then can societies ensure that urban
People	well-being, happiness	residents have access to health-promoting
		green spaces while also pursuing the
		benefits of densification?" (Hartig and
		Fransson 2009, 83)

The trouble with authors and articles falling squarely in the "nature as normative ontological object" discourse is that these theoretical positions tend to ignore the complex discursive processes and socio-political struggles through which cities and natures are produced. While none of the articles under consideration treat "nature" in the sense of a pure, unadulterated good (what Richard Ingersoll might refer to as "first nature" (Ingersoll 1996)), some offer critiques of this view of nature and quite a few draw distinctions between humans or society and nature in ways that suggest fundamental ontological differentiation. Of the authors asserting nature as ontologically distinct from humans, several draw on theories of environmentalism and "saving" or "preserving" nature for its own sake through things such as nature conservation and nature reserves (Borgström 2009; Henne 2010; Lindsev 2003; Maat and Vries 2006). These discussions are not merely "about" nature conservation, but critique various environmental planning practices and suggest alternate routes forward. Borgström (2009) conducts a spatial analysis of Swedish urban nature conservation strategies, concluding that present efforts do not account enough for ecological and social dynamics. Other authors examine human "relationships to nature", both emotionally and physically (Forsyth 1997; Hartig and Fransson 2009; Kellogg 2002; Mincyte and Dobernig 2016; Skuras and Dimara 2004). For example, Hartig and Fransson (2009) discuss "contact with nature" and "access to nature" as key indicators of human health. A final group of authors draw on economic theories and view nature as of physical and/or material benefit to humans that humans have a responsibility to use wisely (Fu 2016; Gleeson 2008; Horowitz 2013; Tranel and Handlin 2006). Fu (2016) for example, frames "nature" and "society" as dichotomous entities that each receive detrimental waste products from natural resource extraction practices.

Of the authors claiming that natures are created or produced through human language and action, the largest group traces how human discourses construct narratives of nature, primarily through language (Abbott and Margheim 2008; Angelo 2016; Campbell 1996; Cowell and Thomas 2002; Edwards 2013; Ernstson and Sörlin 2009; Huber and Emel 2009; Hultman and Corvellec 2012; Shaw and Menday 2013), but also through coding technology (Nost 2015), creative and artistic performance (Lavery, Dixon, and Hassall 2014), and images (Cosgrove 2008). In one analysis of discourses of natures, Cowell and Thomas (2002) trace a set of environmental imaginaries developed in the process of redeveloping Cardiff Bay in Wales, and analyze how narratives such as dispossession and reclamation were used to justify certain development decisions and guide the process as a whole. Other authors theorize how constellations of actors, both human and nonhuman, construct or produce natures (Affolderbach and Schulz 2016; Kinder 2011; Millington 2015; Shandas 2007; Yates and Gutberlet 2011). Yates and Gutberlet explore how a series of interconnected social (human) actors, including *catadores* (recyclers), community gardeners, municipal staff, and local residents were involved in "reconstructing urban socionatures" in Diadema, Brazil (Yates and Gutberlet 2011, 2121). A final group of authors craft arguments describing how social-political-ecological relations produce urban natures (Cook and Swyngedouw 2012; Karvonen and Yocom 2011; Lorimer 2008; E. Swyngedouw 1997; Whitehead 2003). Karvonen and Yocom (2011) argue that civic environmentalism (in this particular case a community-led process to construct a pedestrian trail along a creek in Seattle) is the best hope for achieving practical application of theoretical advances made by urban political ecologists and the 'relational' turn in urban geography. The above examples are fluid, and do not neatly fit in to one "category" or another, but are characterized by theoretical orientations spanning urban political ecology, relational geography, and actor network theory, among others.

Conclusion

Ideas of "nature" in planning scholarship (summarized in Figure 2.5) reveal implicit values and attitudes about the status and role of planning for "nature" in cities, complicating otherwise seemingly simple, but always politically motivated, justifications for planning and design decisions. While a variety of urban natures are evident in recent planning scholarship, the voices are few and the volume of discussion is quite low. This translates into very little planning-led discourse about urban nature in contemporary academic planning journals, which is problematic given the ubiquity and importance of nature-related discussion and action about natures, both theoretically and materially. While planners need not be the only voices theorizing natures, given their considerable scholarly and professional contact with

the material world and significant history with environmental planning work, it seems a missed opportunity for them not to have a bigger seat at the table.

As discussed above, this chapter is limited to the literature in only five prominent journals and therefore has a very narrow scope compared to the breadth and depth of planning authors in the world; future research might expand this search beyond the journals selected for inclusion here, to test whether and how planning discourse about urban natures might be more prevalent elsewhere. This might involve examining other academic journals and perhaps how these compare to representations of nature in planning-related books and other media as well. Another fruitful strategy might be to compare representations of nature in planning scholarship with those evident in planning practice, through analysis of planning discourse, particularly through representations of urban nature(s) in urban plans, both contemporary and across time.

Dialogue about nature is more prevalent in other academic fields, among them urban geography, landscape architecture, and others. While journal articles are not the only place to engage ideas of nature, they represent significant investment of scholars' time and energy, and ultimately influence popular discourse in a variety of ways. Planning scholars often are equipped for timely, relevant, on-the-ground study through participatory action research, plan analysis, and other means. If we engage more closely with vocabularies of nature, both through original research and collaborations with scholars in other fields, and more actively examine and critique vocabularies of urban natures, this might influence material change in ways not possible in other fields with less direct influence on political and spatial decision-making processes in contemporary cities and regions. The following chapter takes a step in this direction, analyzing vocabularies of nature in planning through a case study of planning and regulatory actions in Washington, D.C. at the turn of the twentieth century.

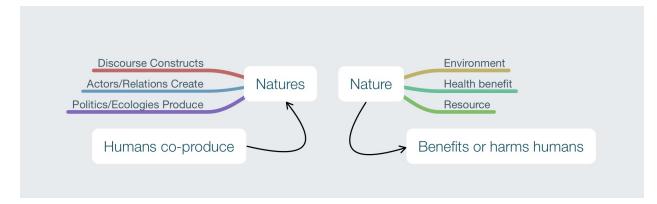


Figure 2.5. Summary of theoretical positions towards "nature" evident in contemporary planning scholarship.

Chapter 3 The Roots of Planning and Nature: The McMillan Plan

There is nothing that the madness of men invents which is not either nature made manifest or nature restored. (Foucault 1965, 283)

Building on the previous chapter's findings, this chapter explores why the field of planning, both planning theory and practice, does not prioritize dialogue with ideas of nature, but rather largely adopts and asserts dominant points of view and ways of seeing "nature." The field of urban planning as a profession in the United States had its start at a critical moment in history, a turbulent time but one also ripe with visions for change. By the end of the nineteenth century, urban conditions in the United States were crowded, dirty, and unsanitary for many. The industrial revolution had caused major structural changes in where and how people lived, primarily a shift from rural and agrarian settings and means of subsistence and employment to industrialized farming practices and widely available factory work. These transformations, and associated explosive urban population growth, caused a strain on existing urban infrastructure and practices. The theory and practice of urban planning from its very inception as a profession in the early twentieth century, responding to these urban transformations, carried with it implicit and explicit intent toward ordering, separating conflicting uses, and re-making what had come before. To "experts," this was an attempt to "fix" what seemed to no longer be "working." Visions of the time came to be known as the "City Beautiful" movement, but these visions were based on somewhat narrow ideas of who should inhabit the city and how it should perform functionally and aesthetically.

The City Beautiful and Social Control

City Beautiful-era planning and design projects, while grand and powerful in scope and scale, were also implicated in nationalist desires to present an image to the world of being powerful, in control, shiny, new and clean. This re-envisioning and re-construction of the ideal city was in direct response to conditions similar to Paris in the late 1800s and many U.S. cities around the same time, where streets were crowded and easily maneuverable by "undesirable" populations, but not by large military tanks and police or surveillance vehicles. The project of modernizing, like Haussmann's vision for Paris, was

entangled with creating military efficiency, sanitary streets, social order, and legibility. In the United States, this came at a time of a massive influx of immigrants to the country, and a political and cultural moment in which the idea of the United States as a nation was being constructed in a particular image, one that reflected and reinforced a Western European colonial history at the expense of other people and cultures becoming part of America at the time. This was also a moment when planners and designers challenged the entire idea of the United States as a colonial holding with primarily rural and agricultural land and people in favor of a place fueled with new wealth and booming industrial power with grandly designed and beautiful cities with power and wealth and prestige of their own to rival the greatest cities in the world. Plans and designs that support this type of vision are ones that obliterate confusion to create order, but are far from just aesthetic or concerned with human health and sanitation: it is a theory tied innately to desire for power and control.

These desires and practices were not new in the late nineteenth century, but draw on an even longer history dating back at least to Thomas Jefferson's and others' vision of the urban grid as a way of dividing and allocating parcels of land throughout the United States in immediate post-colonial times. A grid is seemingly simple: a way to divide the land into equal parcels that are easy to manage; eminently legible because you can number or alphabetize successive gridded blocks in ways that are easy to navigate, even if you are unfamiliar with the place; and highly manipulable because it is easy to combine square tracts of land in the grid or add more tracts as you expand. What Jefferson's gridded vision discounts is the land itself: topography, geology, and habitation by plants and animals, including humans. The grid and other similar planning projects give planners and designers a sense of certainty about the way a place will operate, maps to easily navigate terrain they may be unfamiliar with, and a means by which to enforce and control. Factors contributing to the success of top-down and authoritarian planning initiatives included a desire to regulate and control, unrestrained state power, and a populace not organized civically or equipped to resist the forces of the state (Scott 1998). For early planners creating City Beautiful plans, the winding streets, crowded apartments and alleys, and ad hoc and informal

economic structures of neighborhoods, were complex, illegible, and not easily controlled. Rather than work with what existed, planners cleared it away to "start fresh."

These visions for orderly, legible cities were founded largely on arguments for public health, public safety, and efficiency, but these aims cannot easily be disentangled from what in practice can become dangerously pervasive forms of social control (Yiftachel 1998). Oren Yiftachel, for example, concedes that some level of planning and management is required in order to avoid chaos, but asserts that often planners and their colleagues adopt far too "positive" a view, one "too narrow, too idealistic, and often unrealistic" of the power and potential of planning without recognizing the embedded implications of social control and planning's position as an "arm of the state" (Yiftachel 1998, 397). The roots of these planning ideals are also undeniably human-centered in their approach, and efforts to include plants and animals are subservient to the larger aims of provision of space and control of that space for human populations.

Thus, at the very moment in time when the field of planning as we know it today was taking shape, ideals were prevalent around human dominance and ability to control both human populations and "nature." Whereas prior to this time period, plants and animals might have co-existed with people without much conscious thought, the turn of the twentieth century was a moment in which planners, at the very inception of planning as a profession, asserted and defined quite emphatically that particular views and experiences of the city should be prioritized, and that people, plants, and animals should fit into these visions.

City Natures

Conceptions of "nature" at the turn of the twentieth century were often that it was a "thing" one might find outside of cities. Particularly in the early twentieth century, it was thought that in order to have an experience of nature, one needed to trek to a wilderness area or "escape" to the suburbs. Ebeneezer Howard's vision of garden cities and later visions of greenbelt towns attempted to satisfy a human need for connection with nature and greenery in a more immediate way than thought possible in what were

then incredibly crowded and busy and smoky urban places. That is not to say that ideas of "nature" were absent from cities of that time: Frederick Law Olmsted's prolific work in the late 19th Century in places such as New York City's Prospect Park and Boston's Emerald Necklace, sought particular experiences for city-dwellers and enabled urban transformations that both performed infrastructurally (as in the case of the Emerald Necklace, intended to mitigate stormwater effects and balance the flow of water throughout the city) and aesthetically. His vision for Central Park in Manhattan, realized to an even greater degree in Prospect Park in Brooklyn, was one that constructed very particular nature experiences from wide open lawns to secluded glades that reflected different elements of nature that he wanted to impress upon people, particularly people who needed "civilizing." Thus, "nature" itself was very specifically constructed not just as ideal self-contained worlds within the otherwise noxious city, but to facilitate specific experiences to create social order in the image of the dominant people and views of the time.

Early planners therefore conceptualized "nature" as either something "out there" that one might find outside city limits, or as a particular curation of experience within the city, one that was intended explicitly to mimic or replicate one's experience in the country or in "wilderness." These conceptions form the roots of planning's relationship with plants and animals in contemporary planning, and do not allow for much admission or acknowledgement of the nonhuman as *part* of planning practice rather than as material to use and work towards singularly human ends. As planning itself is rooted in domination of "nature" towards human ends, this in some ways forecloses a priori discussions about the value and presence of plants and animals not immediately useful or attractive to humans.

After a brief discussion of methods used to develop the following case study, we will examine one of the most famous plans in United States planning history, the McMillan Plan. This analysis offers an example of a plan authored at the same time period as Washington, D.C.'s Weed Removal Act (and by some of the same actors), and illustrates planning discourse and practice around the turn of the twentieth century, which importantly sowed roots for contemporary planning theory and practice. The McMillan Plan is simultaneously emblematic of its time and a uniquely relevant case that offers insight into how

four prominent designers and planners envisioned transforming the city into a spectacle of classical architecture with orderly and subordinate "nature" to go with it.

Methods

The following case is a textual and visual analysis of "The Report of the Park Commission to the Senate Committee on the District of Columbia" also known as "The McMillan Plan." This document was available both in print and electronic forms via the University of Virginia libraries. I also consulted records related to the McMillan Plan at the Kiplinger Research Library of the Washington Historical Society, and though these were identical to copies available to me at the University of Virginia library, several images from the McMillan Plan photograph collection provided further detail than was available in the book-sized version of the plan. I imported the electronic copy of the Plan into NVivo Pro for Windows and used the "annotations" and coding features, working through each page line by line for references to "nature," "weeds," animals, and other relevant information while periodically referencing my print copy which in some cases had better image resolution and included a few pages that were missing from the electronic document. After an initial round of open coding and annotations, I completed two additional rounds of more focused coding to identify and analyze pertinent themes (Charmaz 2014). Thematic codes and annotations, were sorted into relevant thematic categories and appear below in narrative format.

The McMillan Plan

The following analysis and discussion of the McMillan Plan will provide context for the planning theories in practice during the time period of the Weed Removal Act in Washington, D.C. Both emblematic of its time and exceptional in its scope and impact, the McMillan Plan provides a clear portrait of the language and aims in vogue in both Washington and the United States at large at the turn of the twentieth century. In 1901, four distinguished architectural and planning professionals: Daniel Burnham, Charles F. McKim, Augustus St. Gaudens and Frederick Law Olmsted, Jr., were called upon to draft a report to guide the improvement of the District of Columbia's park system. Within a short time,

their scope increased significantly, and the resulting Report of the Park Commission to the Senate Committee on the District of Columbia (the "McMillan Plan")⁶ has been cited as the nation's first comprehensive plan (Peterson 1985). Although at the time, City Planning did not yet formally exist as a profession in the United States, the language of the report itself foreshadowed how the plan would come to be known as a precursor to American comprehensive planning practices: "The plans prepared by the Commission and submitted to the Senate with this report are *the most comprehensive* ever provided for the development of an American city" (emphasis added) (United States Senate Committee on the District of Columbia 1902, 16). The report authors were chiefly concerned with a plan for the city at a grand scale with less concern for total cost or timeliness than with the plans being followed as a whole over time. According to historian Jon Peterson, the McMillan Plan played a key role in shaping the development of the field of city planning itself, which emerged in the years following the plan's publication:

Across the nation, urban leaders would recognize in the ambitiousness of the McMillan Plan a fresh approach to the shaping of cities. Their efforts to emulate it by appointing their own local commissions and employing their own expert advisers soon gave rise to city planning as a recognizable movement and to the making of comprehensive plans as the root instrumental purpose of that movement. As a result, planning thought and action would increasingly aspire to be an all-encompassing field of endeavor - as opposed to the diffuse, fragmented art it had been in the nineteenth century. (Peterson 1985, 134)

Along with the inception of comprehensive planning, plans like the McMillan Plan came with the desire to create cities and spaces supporting a particular set of experiences founded specifically on honoring and celebrating the white male imaginary of those who founded the nation. The McMillan Plan itself sought to secure continued power and prominence of this dominant and colonial-era view and experience in perpetuity for the city and for the nation as a whole, because the capital city is very much a symbol of the country, both for people who live in it as well as other nations throughout the world.

Along with comprehensiveness, the authors of the McMillan Plan responded readily to the Senate Committee on the District of Columbia's wishes for a plan that would stress the importance of aesthetics

⁶ The Report of the Park Commission to the Senate Committee on the District of Columbia is colloquially known as the "McMillan Plan" in honor of Senator James McMillan, who was instrumental in facilitating the development of the report.

and dignity in siting of buildings and the character of parks in the city. The Senate Committee held that present conditions had resulted from "compromises that have marred the beauty and dignity of the national capital" and called for "systematic and adequate improvement of the District of Columbia" (United States Senate Committee on the District of Columbia 1902, 7, 8). To this end, the four-member Commission peppered their report with words like "beauty," "dignity," systematic," and "simplicity," and foregrounded all of their recommendations with the imperative to treat "the city as a work of civic art" (United States Senate Committee on the District of Columbia 1902, 12). The report exudes a desire for aesthetic grandeur and systematic control of the qualities and contents of the parks, and by extension, the entire city. The authors' vision was for the District of Columbia to become "the visible expression of the power and taste of the people of the United States" (United States Senate Committee on the District of Columbia 1902, 19). They expressly state that where possible, the city should be made and/or re-made in the image of the 1791 L'Enfant Plan, attempting to erase any departures from the original vision for the city in the late eighteenth century. Contemporary critics such as landscape architect Dan Kiley contend that the Commission's recommendations fell short of achieving those goals:

The Senate Park Commission of 1901-1902 failed to appreciate the power and significance of L'Enfant's original scheme. Its most controversial contribution was to create the Tidal Basin and the Lincoln Memorial with its reflecting pool. The result was to sever the city from the river, and from its connection with the region...L'Enfant's vision of a Venice-like Washington, bequeathed to the city by nature and extending outward to the region, was defeated and replaced by a closed, insular design. (Kiley 1991, 297)

This critique claims that the McMillan Plan authors envisioned something "closed" and "insular," imagining a self-contained sort of place that would serve as a sort of urban monument to certain governmental ideals and roots of power for eternity. Kiley also contends that the plan authors departed from what had been "bequeathed to the city by nature," artificially disconnecting "the city" from both the river and the assumed ecological heritage, clearly evincing a "nature as distinct ontological object" orientation. Kiley writes that in general, the Commission missed the mark, and did not respect the essence of L'Enfant's plan, missing "the source of power" of the examples they studied in Europe (Kiley 1991, 300). These sources of power, however, are themselves embedded in particular European ideals, so had the McMillan Plan adhered more precisely to them, the resulting allegiance to them likely would have still produced a plan singularly focused on perpetuating the established power relations and objectives for social control.

A drawing from a January 1902 edition of *The Washington Post* (Figure 3.1) depicts the way the McMillan Plan itself was displayed as an object for perusal by President Theodore Roosevelt and his party. In the central image, the President and his party are standing in an elevated box, raised above and looking down on the architectural models associated with the McMillan Plan. In the surrounding tableaux, various actors including the President, Senator McMillan, and several secretaries appear viewing the display, some of them holding pamphlets ostensibly explaining what they see before them. The image itself evinces power and prestige, a visual representation of the practice of design and planning at the time and in the ensuing decades as it became formally established as a profession. That the image was published in the newspaper elevates the sense of grandeur the plan authors and lawmakers wished to convey, aligning the McMillan Plan and activities around it with a sense of power, purpose, and position. The plan itself is deemphasized somewhat in the image; while the pamphlets are visible in people's hands and the models are the visual focal point of the piece, this is not an image intended to document or make clear the material of the plan itself, but one to celebrate and even perhaps establish the sense of importance of the plan and planning through the images and attentiveness of the very important personages depicted spending time considering the planning materials. In this way, the image is more than just a part of the plan's history, but actively participated in shaping what the plan was and could become in the eyes of the populace reading the paper. This is not to overstate the power of a single image, in fact those reading it not affiliated with Roosevelt's political party might not have given it a second glance, or might even have been wary of the planning ideals espoused, more to situate it in the same way that J. Brian Harley discusses maps as "a manipulated form of knowledge" that "helped to fashion" the geographic features they were intending to depict (Harley 2009, 129). Just as with other images that follow, this one is a deliberate construction, manipulative whether intended or not, with the power to shape discourse and ideas about the way that plans and planning fit into the life of the people at the time



Figure 3.1. The Presidential Party viewing the models of Senator James McMillan's plan for rebuilding the city of Washington, D.C., *The Washington Post*, January 16, 1902, p. 11

and for many years to follow. In this scene, plans and planning are devised, created, viewed, and approved of from very particular human views and ideas, and the humans in the figure are indeed the most prominent parts of the visual image. Robert Beauregard discusses how this emphasis on human needs and visions continues to this day as:

Planners have not cast off the possibility of making a singular sense of the world— coordinating its parts, eliminating its deviations, and resolving its ambiguities. They still embrace a romantic notion of complexity and reject any hint of ontography. Contingency is still valued less than determinacy, fluidity less than stability, disorder less than order, differences less than commonalities, and complexity less than simplicity. For all their celebration of the vibrancy and serendipity of urban living, planners nevertheless strive to impose their distinctive form of discipline on the city (Beauregard 2015, 219).

Thus a view of discipline and power (Foucault 1970) and the primacy of human affairs is evident in this early image of planning, and many that followed.

Nature in the McMillan Plan

The McMillan Plan was intended as a city-wide report on the present conditions and future possibilities for the District of Columbia park system. Throughout the report, "nature" is treated in the manner of the time as something apart from and ontologically distinct from the everyday workings of "the city," something beautiful to be celebrated. Sonja Duempelmann describes how not only were designers and planners at the time dedicated to creating "separate" experiences of "nature" within cities, planning for nature was also intimately related to larger agendas of order and control:

'Nature' was to flow through the cities like a stream. In fact, if available, natural features such as creeks and streams were used as the backbone of the net of parks and tree-lined streets. This way 'nature', understood as public parks, open spaces and tree-lined streets, was used to order and structure the seemingly chaotic industrial cities. City officials and planners believed that by creating not isolated parks, but a system of parks, the development of a city's built environment, and of society at large, could be 'controlled.'(Duempelmann 2009, 147–48)

Thus the aims of the McMillan Plan, while not unique for the time, sought not only the "positive" aspects on the surface of the plan, but also a deeply rooted desire to orchestrate social movement and activity within "nature" throughout the entire city.

The report authors suggest the need for large parks "to preserve artificially in our cities passages of rural or sylvan scenery and for spaces adapted to various special forms of recreation" (United States Senate Committee on the District of Columbia 1902, 23). This emphasis on artifice suggests an understanding of "nature" in the city as physically constructed (therefore departing from the philosophical orientation of "nature" as ontological object divorced from human influence), but envisions these constructions as "rural" or "sylvan" – curated vegetation and views that provide experiences of country and/or forested life distinct from the everyday human activities of the city. The first time the report authors use the word "nature," it is in the sense of "nature" as something pre-existing:

Up to the present time the abundant facilities which nature affords for healthful and pleasant recreation during heated terms have been neglected, and in this respect Washington is far behind

other cities whose climatic conditions demand much less, and whose opportunities also are less favorable (United States Senate Committee on the District of Columbia 1902, 27).

Nature is treated similarly throughout the rest of the report as "found" conditions pre-dating human influence (e.g. description of areas "in their natural state," p. 75). Planted vegetation is understood as deriving from human influence, sometimes even to the point of quasi-militaristic language, such as the elm trees in the city's monumental core:

From this cross axis the carpet of greensward of the Mall stretches westward. The bordering columns of elms march to the Monument grounds, climb the slope, and, spreading themselves to right and left on extended terraces, form a great body of green, strengthening the broad platform from which the obelisk rises in majestic serenity (United States Senate Committee on the District of Columbia 1902, 47).

Visual evidence from the McMillan Plan confirms these overarching objectives of creating order and legibility through the use of using plants, such as trees, to aid in the larger goal of creating symmetry and directly reflecting the grandeur of the architecture in the capital city, particularly in the monumental core. One example of this is a rendering of the (never realized) plan for Union Square in front of the Capitol building (Figure 3.2). In this rendering, the square before the United States Capitol building is a symmetrical and low-lying design in the style of the greatest European gardens of the time, offset by trees strikingly planted along the mall in neat and orderly rows, with each individual tree clearly standing out as an individual building block in the larger architecture of the orderly forest. While this particular planting design was intended for a very unique place in the city, one with arguably the most grand and venerable architectural structures, it speaks to a larger vision evinced in the document as a whole of nature "behaving" and "performing" in certain ways to complement and reinforce the dominance of the buildings. This image, along with others in the report, directly references European design sensibilities, and is richly laden with the power and control evinced by the symmetry and order the designers intended. The rendering shows everything as perfectly planted and pruned and maintained, thick with the onus of living up to the panoply of European example images of fountains, plazas, and squares the report authors include. With this and similar renderings, the report authors assert the very particular power of the design lineage they hope to perpetuate, almost as though branding the capital city with a stamp of the image that



Figure 3.2. View showing the proposed treatment of Union Square.

reflects the power, order, and control they wished to see continue for the city and the country as a whole. While the report does not necessarily indicate similar planting throughout every area of the city, there is a sense that the vegetation permitted in the city will necessarily conform to expectations for humandesignated control and be found in its "proper" place. Beyond the ceremonial core, plan authors indicate a desire to create particular experiences of "nature," ones that would be curated with specific plants and views. Ironically, while the "nature" in the ceremonial core was intended to directly reflect and relate to human achievements via architecture, the "nature" in city neighborhoods was intended to perform completely independently of any traces of human material such as buildings, infrastructure, and waste. In no place in the McMillan Plan vision for nature in the city was there room for entanglement or co-creation of nature and city.

In addition to the explicit visual and textual directive for using vegetation in service of larger goals of creating order and legibility, the McMillan Plan also refers to the desire to remove traces of

human presence from areas designated as "nature" within the city. The captions of several images in the report refer to the "possibility of seclusion from disagreeable surroundings" and surroundings with "disagreeable character," reflecting the prevailing turn-of-the-century desire to curate and control "nature" as separate and distinct from experiences of "the city" and therefore promote material manifestation of "nature-as-thing" ontologically distinct from humans orientation (see, for example, Figure 3.3). It is unclear from the photographs and captions whether the "disagreeable surroundings" are the urban context, the scrubby vegetation, or both, but the commissioners seem to imply that the District's parklands should be aesthetically pleasing, and that one should have an experience within them untarnished and screened from "disagreeable" elements of the city that exist around them. These photographs are taken and interpreted from very particular points of view, of outsiders looking at city conditions with an eve towards changing and "improving" it to better fit their vision for what "nature" in the city should look like, which at the time was a very specific form of beauty as propagated by the City Beautiful movement. While the McMillan Plan authors likely derived a lot of inspiration from their own and others' work on the World's Columbian Exposition in Chicago in 1893, scaling such "beautification" efforts up to an entire city would necessitate a great deal more financial backing and adoption of similar values by the people living and working in the city. The "disagreeable character" in the images might actually be material tied intimately in relationship with the people living and working on the ground, and attempts to radically and completely change conditions in the image of other places and ideas of beauty is a political act, one endorsed by certain members of Congress at the time, but not necessarily by the habits, mores and values of the humans and nonhumans sharing city life together. The "high-level surroundings" depicted in Figure 3.3 are the homes, businesses, and transportation routes of Washington residents. Arguments for improvement of the parklands throughout the city are based largely on the rationale of improving public health for residents and promoting the dignity of the Government's and country's image. The committee contends, without much explanation, that "the positive squalor which to-day mars



Figure 3.3. "Rock Creek, looking north from M street bridge, showing landscape value of the open water surface and the foliage of the valley, and indicating the disagreeable character of the high-level surroundings." (McMillan Plan Image 180)

the entrance to almost every public park is too apparent to need discussion" (United States Senate Committee on the District of Columbia 1902, 11). This "positive squalor" is seen from the eyes of people who do not actually live in the city, those part of the dominant class, and with an eye towards cleaning the city up and transforming it to reflect and re-create architectural and planning principles from elsewhere, particularly Europe, and to imprint their signature design aesthetic and vision for cities on the United States capital.

Both emblematic of its time and a sign of things to come, the McMillan Plan and similar plans set the tone for planning and design discourse for the City of Washington in the early twentieth century. "Nature" was conceived of as either part of the urban landscape that pre-dated human-built creations or as something to be carefully curated as a separate experience from "disagreeable" human-made artifacts such as smokestacks and other evidence of industry. These two opposing visions for nature in the city covered the extreme cases of architectural monumentality and large parks set apart from day-to-day living and working spaces, but did not address the plants and animals that might share more mundane "everyday" city spaces and experiences. While the report authors necessarily were visionaries, imagining the grandest and most fantastic possible future for the capital city, despite claims that they wished for the urban fabric to be "closely related to its environment," their actual language and visions departed significantly from existing conditions (United States Senate Committee on the District of Columbia 1902, 71).

Particularly in light of claims that the McMillan Plan guided and shaped planning thinking at a critical time as the profession was taking shape, it did not allow for much collaboration between the actually-existing "natures" on the ground in the city, a problem that has persisted throughout planning thought and action for much of the time since. In this way, the McMillan Plan and those that followed problematized heterotopic conditions, seeking to assert physical, spatial, and aesthetic power and control of nature and human experience of nature in the Washington. The plan authors sought conditions in line with Michel Foucault's definition of utopias, and reviled anything resembling heterotopia:

Utopias afford consolation: although they have no real locality there is nevertheless a fantastic, untroubled region in which they are able to unfold; they open up cities with vast avenues, superbly planted gardens...*Heterotopias* are disturbing, probably because they secretly undermine language, because they make it impossible to name this *and* that...(Foucault 1970, xviii)

The authors of the McMillan Plan envisioned and codified a utopic and orderly vision "from above" that would draw upon plans from the past and examples from Europe to create a city to celebrate governmentality and present a grand and imposing image to the world. Heterotopic conditions such as "disagreeable surroundings" and "positive squalor" as discussed in the plan confirm the desire to radically transform already existing interconnections between people and "nature" in favor of something cleaner, shinier, and newer.

The McMillan Plan established an important precedent for the use of vegetation to produce certain power relations and social conditions. This "tabula rasa" approach to planning for natures is still pervasive today, and "planted" and "tended" species are often introduced to fit plannerly expectations of

how plants and the animals that live off of and within them should "behave" in human-centric city space. Heterotopias in cities are largely feared and if financially possible groomed to conform with expectations for order, neatness, and efficiency. The case of the McMillan Plan offers a window into the origins of these types of philosophical and material practices. The McMillan Plan, as at least one source of the plannerly desire to control urban vegetation to very specific human-desired ends, also provides hope that if, as suggested here, current philosophy and practice can be traced back to these specific origins, it is also possible to re-visit and re-imagine new ways of thinking about and planting vegetation in cities based on a different set of planning principles, whether from different moments in history or from new ideas percolating today. Revealing the social construction of planning approaches to urban vegetation suggests that these approaches might be re-constructed in new ways.

In the following chapter, we turn to a different but closely related piece of legislation that emerged contemporaneously with the McMillan Plan. Focused more specifically on weeds and overgrown vegetation on lots in neighborhoods throughout the city, the Weed Removal Act of 1899, while unconcerned with "nature" in the linguistic sense, established an important precedent for the extent and qualities of vegetation permitted throughout the city and addresses the more "everyday" nature that is absent from the discourse in the McMillan Plan and other similar plans of the time. Though nearly impossible to enforce, the Weed Removal Act was the culmination of significant complaints and concerns among Washington residents at the time that absentee landlords were not maintaining their lots in a proper manner befitting of the capital city. In this way, while the McMillan Plan asserted plannerly power "from above," the Weed Removal Act represents lawmakers' response to citizen complaints, providing a different view and different voices, but still representing and promoting powerful human-centric visions of the position and status of plants in the city.

Chapter 4 Regulating Weeds: Relational Discourses of Nuisance and Nature in Twentieth Century Washington

Weeds are not good or bad; they are simply the plants that tempt the botanist to use such anthropomorphic terms as aggressive and opportunistic. (Crosby 2004, 150)

This chapter examines planning and regulatory actions in Washington, D.C. at the turn of the twentieth century, when Congress solicited the McMillan Plan and the District's Health Officer struggled to enforce the 1899 Weed Removal Act. While not the only place or even the first with a weed removal act, the District of Columbia's unique position as simultaneously capital city, local place, and Federal district provides a unique mix of historical significance and governmental structure. While very unique in this regard, the District of Columbia is also an example many other cities look to and have looked to over the decades. Washington, D.C. also has a four-season climate that makes it interesting and applicable to a lot of other places, but also has very unique environmental conditions including extremely swampy conditions and extreme humidity during the summer, also contributing to its uniqueness as a study site for urban plants and animals. Through archival research of government reports, newspaper articles, photographs, cartoons, and other materials, this chapter asserts how urban weeds complicate discourses of "urban nature" in planning visions and practice. The discourses surrounding the legislation reveal a disconnect between both top-down and bottom-up visions for order, beauty, and dignity and the uncontrollable conditions on the ground throughout the city. Planning visions were for an ordered built environment flanked with orderly "nature" and constructed "wildness," but the heterotopic weedy realities of the on-the-ground city thwarted attempts to keep nature in its "proper" human-intended place. Before turning to the central case study of this chapter, we will briefly explore some historical references related to urban weeds, laying the foundation for a discussion of the Weed Removal Act in Washington, D.C. at the turn of the twentieth century.

Urban Weeds

When people think of cities and nature, as discussed in Chapter 2, they often think of diametric opposition. In fact, there are always already natures, ever present in cities, intertwined and interwoven with all other aspects of what we think of when we think of "the city" (Wolch 1996; Hinchliffe and Whatmore 2006; Beatley 2011). In particular, plants considered "weeds" are ubiquitous and resilient nonhuman participants in city life; once you start to notice weeds, they are everywhere you look. Despite theoretical and popular notions of a dichotomy between "urban" and "nature," plants, both human-tended and heterotopic, have been part of the urban project since its inception. Herbert Sukkop, an early leader in the field of urban ecology, refuted popular sentiment about lack of living things in cities as early as 1973:

The often repeated statement that each city is generally hostile to life, seems to be disproved in several ways...with existing complications, purely anthropogenic biotopes can offer suitable habitats with characteristic species combinations. The species combinations of such habitats vary between industrial facilities, railways, ports, rubbish dumps, and so on, and may be different from those known from other habitats (Sukopp 2008b, 281).

This recognition of coexistence between plants and urban form challenges the very idea of a city, even parts of a city thought of as "entirely" composed of human-related material, devoid of "nature" in the form of vegetal matter. Late twentieth- and early twenty-first century theorists such as Bruno Latour imagine an end to previous efforts to distinguish between "nature" and "society," instead arguing that a "proliferation of hybrids," complex manifestations that cannot be neatly categorized one way or the other, complicate and ultimately negate the possibility of such a separation (Latour 1993).

What is a weed, and why do they matter in cities? Many scientists and scholars agree that "weeds" are actually not biologically inferior plants, but rather are assigned negative characteristics for various social reasons (Mabey 2010). A great deal of study and scholarship exists on weeds in agricultural settings, and a growing number of scholars are writing about weeds in urban contexts as well (Del Tredici 2010a; Falck 2011). Alfred W. Crosby, in his formative text *Ecological Imperialism*, describes how the rise of agriculture itself caused the usage and variety of the word and concept of weeds to take shape: "before the advent of agriculture, there were relatively few of these plants representing any given species;

they were the 'pioneers of secondary successions or colonizers' specializing in the occupation of ground stripped of plants by landslides, floods, fires, and so forth" (Crosby 2004, 149). Crosby deftly traces the introduction and spread of weedy plants of European origin throughout American and Australian colonies, arguing that the most important predictor for success of these plants is the hospitability of the land and climate. However, he also notes that weedy plants do not survive as well when conditions are undisturbed: "weeds find it difficult to elbow into undisturbed environments, and they will usually die out if disturbance ceases...weeds thrive on radical change, not stability" (Crosby 2004, 169–70).

The etymology and usage of the term "weed," though commonly associated with agriculture, is quite varied and complex. The term "weed" has been used to describe undesirable people, tobacco (particularly referred to as a "vile weed"), allegorically to describe negative attributes of people, and even as a metaphor for undesirable political culture (Falck 2011, 7–8). In all of these uses, weeds were construed, from as early as colonial times, as undesirable material, and also as visible signals of land that colonial powers might seek to "tame" and bring into order whether for habitation or agriculture or both. Environmental historian James E. McWilliams broadens these claims beyond just the fate of weeds: "every settlement society, whether aware of it or not, was burdened with the ongoing responsibility of determining what particular flora and fauna should flourish and what should perish – they were, in essence, botanical tyrants making rapid and fateful decrees over the floral world" (McWilliams 2011, 293). McWilliams goes on to argue that in colonial America, weeds were tolerated more readily than in England due to a number of factors that made it impossible to keep them at bay: tolerance by necessity. Ironically, that plants interfering with human attempts to cultivate agricultural crops are generally assumed to be "weeds" is itself an implicit assumption that humans "should" be able to farm a particular crop in a particular place. Botanist Edgar Anderson wrote that "the history of weeds is the history of man," and proceeded to explain that untangling the "history" of weeds was no simple matter of a single linear story, but could best be understood and interpreted through a series of "detective stories" that might follow the emergence, connections, and distribution of an individual plant as a way to understand the

greater picture (Anderson 1952, 15). Thus the roots of the word run deep, and while thought of as negative for agricultural production, are also steeped in notions of colonial power and control of subjects.

What makes a plant a weed in a city? Like "nuisance" and "pest" animals, plants become "weeds" when they interfere with desired human activity or begin to represent something undesirable for a certain group of people in a particular time and place. Some examples include when weeds thwart planning attempts at order and regularity, or when they collectively (and often in large and difficult-tocontrol volumes) represent disinvestment, lack of care, and, importantly, lack of purpose or productivity for a particular place or places in the city. There is unspoken and spoken ambivalence about land in a city that is not actively being put to "productive" use, or at least being designated as on the way to or back to productive use. These overarching expectations for order, regularity, and productivity are often very present in discourses concerning weeds and weed removal from city lots, sidewalks, and other places. For example, in a report on attempts to rid Kansas City of weeds in the late 1800s, weeds were described as contrary to every reasonable effort to make the city inhabitable: "The time has come when it should be fully and generally understood that Kansas City is to keep clean and wholesome and sightly and free from all disfigurement without a general uprising of the people and a protest against negligence and carelessness which are wholly out of place in a city with anything like metropolitan pretensions" (*The Washington Post* 1898a).

Weeds in this way came to represent not only distinguishing many new urban residents from their rural origins, but also metaphorically (often with Biblical language) from a place unclean, unsightly, and disfigured, contrary to the prevailing vision for a beautiful and orderly city inhabited only by humans and beautiful and orderly plants. The city was something distinct from tangled wildness and a place where people would, just as perhaps their predecessors had in farm fields, root out weeds in order to create a "better" life. While people in turn of the century American cities may have derived dislike of weeds from agricultural heritage, the ire weeds provoked during this time was different, and often described as affronting human senses rather than preventing productive crop growth, as in this newspaper article from the late 1800s in Washington: "The summer is almost past, the autumn is close at hand, but our weeds

still vex the eye and nose and pollute the air" (*The Washington Post* 1898b). In this way, people built upon colonial, religious, and agricultural heritage to construct weeds as a threat, a nuisance, and something apart from humans to be destroyed.

Identifying "weeds" as separate from human activity negates the relational ways in which heterotopic plants appear and are nurtured by humans, regardless of intention. Accepting that weeds are intrinsically linked and in direct interaction with humans draws on relational thinking prevalent in multiple fields questioning previous dichotomies and asserting complex webs of interconnectedness as a starting point (Graham and Healey 1999; Jones 2009; Latour 2004). A relational perspective "shifts the emphasis from the boundaries that define humans and nonhumans to focus on the interactions between them" (Karvonen and Yocom 2011, 1305). Late nineteenth-century botanist Lyster Dewey describes this interconnectedness between human activity and urban weeds at the scale of vacant lots:

While unused land in the country is generally covered with native vegetation, chiefly perennial grasses and timber, that in cities and towns has usually at some time been under cultivation, so that the native vegetation has been destroyed, and its situation is such that it is most readily seeded with migratory weeds. The seeds are introduced in the packing of crockery, the sweepings from stores, rubbish from yards, cleanings from stables and stock cars, and in various kinds of garbage and refuse, too commonly deposited on vacant lots. Sometimes lot owners encourage the dumping of all kinds of material on their land to bring it up to the grade of adjacent streets, and when the desired grade is obtained the made ground, full of weed seeds, is left untouched. The conditions for weed production have been most admirably prepared, and the natural result is a plentiful crop of weeds. (Dewey 1899, 193)

These "conditions" arise directly from human activity, and while the particular activities and matter were different in the late nineteenth century than they are today, the same interconnectedness persists. While "weeds" are socially constructed as nuisance, they thrive upon material conditions that humans create. This is true at the scale of a lot, as Dewey attests, as well as at the larger scale of urban development as a whole. Peter Del Tredici describes how ever-changing urban configurations provide ideal conditions for weeds to grow and thrive at the city scale:

Perhaps the most obvious distinguishing aspect of urban environments is the ubiquitous physical disturbance associated with the construction and/or maintenance of their infrastructure. Such disturbances drastically alter existing soil and drainage characteristics, thereby changing the growing conditions for the associated biota. (Del Tredici 2010a, 300–302)

While the amount of disturbance will vary depending on urban economic conditions (for example, cities with active construction projects have greater ongoing disturbance), continual efforts to build and re-build cities continually turn up and move around soil, asphalt, plants, and other material, creates ideal conditions for weeds to grow and thrive. Thus cities and the people, animals, and waste products that inhabit and flow through them, perhaps even more than contemporary farmland, present ideal conditions for weedy plants to thrive.

Weeds embody the impossibility of ontological distinctions between "urban" and "nature": they appear without human intent or care (albeit symbiotically with human activity) within the framework of the city, from the tiniest stalks in sidewalk cracks and along building walls to large-scale colonization of areas without active built spaces. Large-scale urban transformations such as bombings in European cities like Berlin during World War II and global industrial shifts affecting populations in American cities like Detroit result in considerable urban land area no longer actively used by humans, causing a proliferation of spontaneous urban vegetation. Spontaneous plants taking root in the rubble of post-war Berlin became the subjects of ecological research that formed the basis of the contemporary field of urban ecology (Sukopp 2008a). However, these plants were far from the first of their kind studied and recorded by humans: Herbert Sukopp, one of the scientists who started studying plants in Berlin in the twentieth century and one of the founders of the field of urban ecology, traces centuries-long practices in European urban areas of studying vegetation appearing among city ruins and in ancient city walls, as well as the earliest recorded urban "botanical rambles," which included ruderal vegetation (Sukopp 2008a, 81). For Sukopp, while the contemporary field of urban ecology identifies particular origins dating to the 1970s, exploration, study, and documentation of spontaneous urban plants is not a new idea.

Spontaneous plants are very hardy and adaptive to extreme conditions: characteristics such as taproots, tolerance to drought, and facile seed production and dissemination that make them formidable as "weeds" also make them uniquely suited to urban environments, which are nearly always places with a lot of pavement, altered water conditions, and with continually disturbed soils (Del Tredici 2010b). According to Alfred W. Crosby in *Ecological Imperialism*, weeds "reproduce rapidly and in great

quantity," they are "efficient at getting themselves, particularly their seeds, distributed," they are very "combative" and they "grow profusely in miserable micro-environments," many of which can be found in twenty-first century cities as we know them today (Crosby 2004, 167–68). Crosby describes these characteristics from the perspective of the weeds themselves:

Weeds sprout early and seize bare ground. Direct sun, wind, and rain do not discourage them. They thrive in gravel beside railroad tracks, and in niches between slabs of concrete. They grow fast, seed early, and retaliate to injury with awesome power. They will even take root in the cracks in an old shoe; not much hope there, but perhaps the shoe will be thrown into the midden out back, and then they can burgeon and swallow the whole yard" (Crosby 2004, 168–69).

Figure 4.1 and Figure 4.2 demonstrate this powerful interconnection between weedy plants (in the illustration, common mugwort is used as an example) and urban conditions such as continual disturbance, limited land availability, and poor soil conditions. The tenacity and ubiquity of weedy plants are often assumed to be negative and difficult to counter, but some theorize that there is great latent potential in deeper consideration of plants often disregarded as weeds. In his theory of the Third Landscape (*Manifeste du Tiers-Paysage*), gardener, landscape architect, and horticultural engineer Gilles Clément posits that spaces left to natural succession and not actively cultivated or controlled by humans are places holding "the genetic reservoir of the planet" (Clément 2003). Other researchers in landscape architecture and environmental studies claim that spontaneous urban plants may have ecological, social, cultural, and aesthetic value, and still others suggest that these plants might present economic value, particularly in the context of increasingly stretched budgets for maintaining urban parks and vegetation (Kühn 2006; Rupprecht and Byrne 2014).

While my interest in weeds stemmed from personal fascination with their resiliency, hardiness, and ubiquity, this fascination is tempered by a keen understanding that weeds mean and represent different things to different people, depending on situation, context, and point of reference. However, in the scheme of imagining how we grow and nurture relational natures in cities, there is room for reconceptualizing weeds and what they might represent without succumbing to the impulse that many have, as Millington (2015) describes, to romanticize urban "ruins":



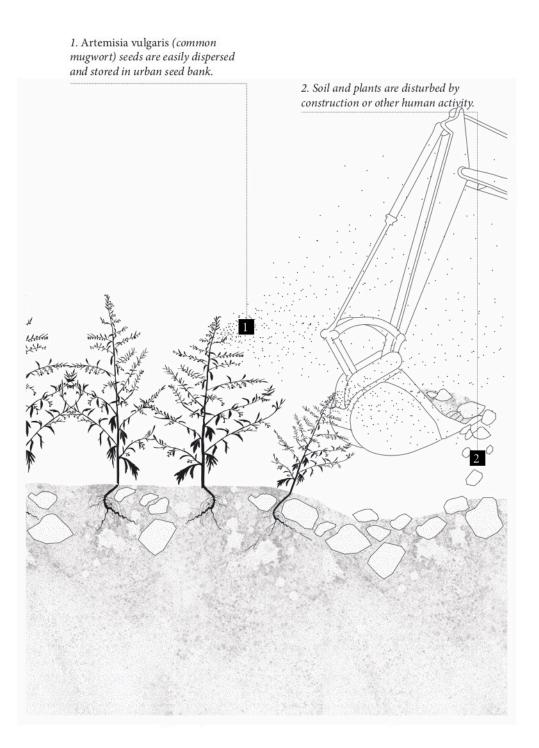


Figure 4.1. Weeds adapting to urban conditions, Year 1 (Diagram created with Sarah Pate and Maddie Hoagland-Hanson)

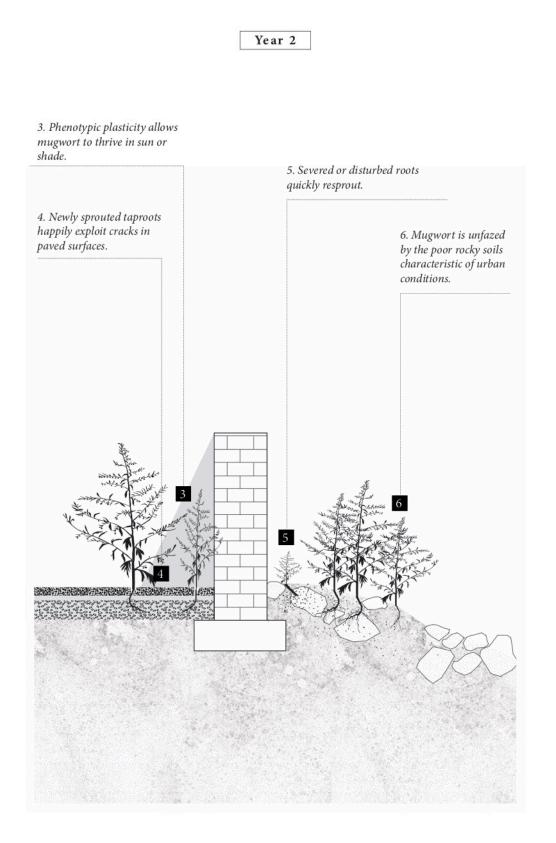


Figure 4.2. Weeds adapting to urban conditions, Year 2 (Diagram created with Sarah Pate and Maddie Hoagland-Hanson)

Aesthetic or romantic engagements with urban wastelands will universalize urban waste spaces and ignore the sorts of violence that they signify for communities often forced to live in their shadows (Millington 2015, 2334).

For populations living in economically and socially distressed areas, weedy lots strewn with garbage, needles, and spent condoms are not an asset, and represent something very negative that must need "improvement." But, as Timothy Edensor eloquently describes in his 2011 book, *Industrial Ruins*, often places that are no longer part of active city life (for him, "ruins") have multiple publics and multiple stakeholders:

For many, ruins serve as an uncanny space amidst a familiar realm. But precisely because they are regarded as foreign or dangerous spaces, they can become spaces of fantasy, places in which unspeakable and illicit acts occur, places of unhindered adventure. Ruins possess an allure for those who want to escape the increasing official surveillance in urban areas and the watchful gaze of neighbors and parents. (Edensor 2005, 25)

This is not to refute the onus of being responsible to residents and people who have long-term investments in a place that weeds thwart and mock (and for whom the weeds *have* invaded a "familiar realm"), rather to expand thinking beyond that as the "only" group that "matters" and/or has a stake in where and how weeds might exist in cities - challenging any singular view with multiple, interconnected ways of thinking. Expectations for neighborhoods free of weeds are predicated on notions of order and cleanliness, ideals that are nearly impossible to execute. Ironically, the same plants, sometimes even in the same places, have the potential to both fascinate and elicit disgust, complicating overly simplistic approaches to classifying and discarding of them. The same plants represent abandonment and disinvestment for some people in some situations and inspiration and wonder in others. Design and planning responses to the plants are similarly diverse and are often guided by professional orientation and vocabulary.

The remainder of this chapter will briefly review methods used to produce the analysis, then examine Washington, D.C., at the turn of the twentieth century, when the Federal government, which at the time was responsible for managing the operations of the city, passed and struggled to enforce a law to remove weeds from lands in the District of Columbia. These efforts were contemporaneous with planners and landscape architects drafting the McMillan Plan (covered in detail in Chapter 3). As a result,

Washington, D.C., at the time still a relatively "new" city, was a living paradox of efforts to secure control and order in the face of wild weediness that resisted regulation.

Methods

Key resources for this chapter were discovered in the records of the Board of Commissioners of the District of Columbia at the National Archives in Washington (primarily Record Group 351), at the Kiplinger Research Library of the Washington Historical Society, and in the online archives of the Washington Evening Star and the Washington Post. For print-based resources, each set of records was consulted in chronological order while making digital notations on a laptop computer. In order to determine the right archives to visit, I first contacted the Library of Congress, as the lawmaking in turn of the century Washington was executed through the United States Congress. A representative from the Library of Congress advised me that unpublished committee records related to the Senate Committee on the District of Columbia are housed in the Center for Legislative Archives at the National Archives. Upon consultation with a representative from the Center for Legislative Archives, I determined that congressional records related to the Weed Removal Act are very sparse, and essentially just indicate that the legislation was introduced and passed. This led me to the papers of the Commissioners of the District of Columbia, since records indicate that the commissioners authored and sponsored the bill. The online finding aid for the records of the temporary and permanent Boards of Commissioners indicates that the collection includes letters sent, letters received, minutes and orders of the commissioners, and annual reports for the time period of interest, but despite two unanswered electronic inquiries and three unanswered phone calls to contact archivists in the civilian files (which include historical District of Columbia documents), I was disappointed to find upon arrival to the archives that the collection does not include any "letters received." The Board of Commissioners records disappointingly do not include letters from the public to the Board; while reports and official government documents from the United States Congress allude to "complaints" from neighbors regarding weeds at the time, for the purposes of this

project these are primarily inferred from primary newspaper sources rather than directly from the letters themselves.

Despite the absence of letters that might have provided a great deal of evidence, I consulted a number of other records during my time at the archives, some of which proved fruitful and some of which did not. I reviewed the Indexes to Letters Sent from the Board of Commissioners from August 1, 1896-March 3, 1901, but did not find anything of interest to the project in those files. Reviewing the actual letters sent from the Board of Commissioners between the years 1895-1899 provided a very informative overview of the types of issues and concerns in the District of Columbia around the time of the Weed Removal Act: responses to requests for streetlamps, sidewalks, and stables, for example, but again did not produce any direct reference to concerns around weeds specifically. This was a bit of a red flag because there is evidence of a letter sent from the Board of Commissioners to the United States Congress on January 11, 1899 along with a draft of the Weed Removal bill, possibly indicating that the records I was consulting are incomplete, however further investigation produced no other possible source of additional data. The next set of records, the Board of Commissioners' Minutes, including orders from late 1898 through June 1900 also included no direct reference to the Weed Removal Act, but did mention issues around "parkings" and tree planting along city streets, indicating that these were under the purview of the Board of Commissioners at the time along with buildings, infrastructure, sewers, lighting, pipes, and paving. While the records did not produce what I was looking for in terms of particular evidence to unpack the conditions and issues around the Weed Removal Act, they certainly established the work of the Board of Commissioners as foundational in terms of planning and building practices in the city at the time.

The Annual Reports of the Board of Commissioners, available in part electronically and in full in print at the National Archives, provided the most concrete and relevant evidence related to the Weed Removal Act. At the National Archives, I read through two full Annual Reports to get a sense of the type of information therein, after which I used the indexes to search each annual report between the years 1898-1921 for all references to "weeds" and "nuisances." This produced a compendium of sub-reports on

activities surrounding weed removal in Washington, D.C., both in the main body text of each Annual Report as well as in the Health Officer of the District of Columbia's reports, which are each embedded as a separate volume within the annual reports. I scanned each piece of evidence from each report that was not already digitized through the Hathi Trust, producing a complete personal collection. I also reviewed a record group titled "Records of the Board of Health and the Health Department; Commissioners Orders and Newspaper Clippings Related to Health Issues, 1915-1934" to see if any additional references to weeds or weed removal appeared after the act had passed, but there were none.

For newspaper articles, I purchased a non-resident library card for the District of Columbia Public Library, which allowed me to access full text historical newspapers, most notably the *Washington Evening Star* remotely for one year. In order to gather newspaper evidence to analyze, I used the electronic search functions for the *Washington Evening Star* and the *Washington Post* to search for "weed" "weeds" "weed removal act" and "health officer AND weeds" between the years 1896-1930. This produced a fair number of articles directly related to the Weed Removal Act, but also quite a few not related to the act itself but on the general topic of weeds, providing some context for the act.

My work at the Kiplinger Research Library was primarily motivated by their image collection, and I prepared a list of all call numbers prior to my appointments at the archive. The most fruitful collection at the Kiplinger Research Library was one I found by searching their catalog prior to my visit using terms such as "weeds" and "vacant" – a collection of "unimproved areas" in the District of Columbia in the early twentieth century, quite a few of which demonstrate the degree to which unintentional vegetation coinhabited city space during that time period. I also requested and reviewed large file boxes on general topics and themes related to the research, including general "nature" resources and District of Columbia Public Library vertical files on various topics (discussed further in methodology section for Chapter 5).

The Weed Removal Act

Immediately prior to the authoring of the McMillan plan, on January 11, 1899, the District of Columbia Board of Commissioners, a three-member Commission appointed by the President of the United States to govern the city of Washington, sent a draft of a "weed removal" bill to the House and the Senate committees on the District of Columbia. This effort was happening simultaneously within the political and social milieu of the McMillan Plan discussed in Chapter 3, in which planners and designers were attempting to make a new image of the city and the country as a whole that would establish it as a veritable world power, one with particular people in mind despite the influx of new immigrants who did not fit this image, but ironically were still reinforcing the colonial lineage that they in theory were trying to escape. This was also a time in which urban dwellers wanted to explicitly set themselves apart from the agrarian history and image of the country, to be viewed as on par with powerful and wealthy world cities, and part of this effort was one in which city streets, homes and gardens were beautiful, dignified, and orderly.

Despite or perhaps precipitating intentions for order and grandeur, weeds had quite a presence in the District of Columbia at the turn of the century. Botanist Lyster Dewey describes the spread of weedy plants throughout the city by the season:

In Washington, D.C., the wild onion of winter and early spring is followed by the dandelion and bulbous buttercup; then come the wild carrot, prickly lettuce, and sweet clover, and these in turn are partly displaced in the fall by horseweed, ragweed, cocklebur, Mexican tea, slender pigweed, and jimson weed. Chicory, horsenettle, burdock, and gum succory are in abundant evidence throughout the season. (Dewey 1899, 194)

Essentially contemporaneous with the McMillan Plan, and debated and carried out by some of the same people, the Weed Removal Act can also be seen as indicative of its time as part of the City Beautiful movement to "sanitize" and "beautify" urban areas. Weed removal acts were enacted in at least a few cities prior to the legislation in Washington, D.C., including Columbus, Ohio (1888) and St. Louis, Missouri (1896), but the majority of urban weed removal legislation in United States cities during this period appeared in the two decades following the District of Columbia Weed Removal Act: Indianapolis,

Indiana (1904); Cincinnati, Ohio (1905); Camden, New Jersey (1907); Chicago, Illinois (1913); Cleveland, Ohio (1914); New York, New York (1915); Pittsburgh, Pennsylvania (1917)(Falck 2002, 625). In this way, Washington's legislation was not unusual for the time, but was on the early end of the trend and likely set the standard for acts to follow in other cities, where an act published at the federal level might have carried more weight as an exemplar than in other cities at the time.

In the District of Columbia, the Board of Commissioners urged Congressional support for the bill on behalf of "a great deal of complaint by persons residing near vacant lots on which the class of vegetation in question is permitted to grow without restraint" (United States House of Representatives 1899). While no records of these complaints to the Board of Commissioners exist, one can infer that people with the time to formulate and deliver complaints about weeds were likely property owners themselves and must have had sufficient time and resources to devote to such matters. It is unlikely that people who were living in poverty or without social standing would have had the time or wherewithal to bother with weeds. In this way, thought without sufficient evidence, we might hypothesize that the Weed Removal Act was founded upon complaints of Washington's elite, those with the means and social standing to consider and contemplate the dissonance between weedy lots and their desired vision of their property, neighborhood, and city at large. A newspaper report around the time the bill was authored states that "the growth and decay of the weeds...produce in most cases offensive and noxious odors, amounting to a decided nuisance, if not a menace to health" (Washington Evening Star 1898a, 12). The "nuisance" that weeds posed was characterized as threatening aesthetics, public health, and public safety, and sometimes all three. With a sensational headline, an article published in *The Washington Post* in January of 1899 claimed that "weeds poison the air" and that the Board of Commissioners was poised to "make war upon them" (Figure 4.3). While undoubtedly typical of newspaper headlines at the time, the extreme language firmly positions the Post's readership opposite the weeds as a veritable foe, calling for a battle to the death with serious consequences to human health and well-being.

In the same legislative session that the Weed Removal Act was passed, Congress also passed a law regulating the inspection of flour in the District of Columbia as well as a law for the prevention of

WEEDS POISON THE AIR

Commissioners Propose to Make War Upon Them.

URGE APPROPRIATE LEGISLATION

Submit a Bill to Congress, the Object of Which Is to Compel Owners of Vacant Lots to Keep Them Cleared of Noxious Vegetation—Favorable Report on Bill Requiring Capital Traction Company to Equip Cars with Safety Brakes.

Figure 4.3. Sensational headline from the Washington Post, January 12, 1899

smoke in the District of Columbia (District of Columbia Board of Health 1899, Appendix G). As with the McMillan Plan, around the turn of the twentieth century there was great concern for public health throughout the city, and while the Weed Removal Act was part of this movement, these other laws passed within the same suite of laws ultimately found themselves more useful and much better funded and more universally enforced in ensuing decades. The smoke prevention law had a clearer connection to health and wellness than weed removal, and also proved much easier to enforce, because a finite number of establishments produced smoke in and around the city, and therefore output could be somewhat more reasonably measured and regulated. Factories producing smoke were also actively doing so, whereas absentee landowners allowing weeds to grow on their properties were just that: absent. Whereas from year to year the Health Officer of the District of Columbia reported frustration and defeat with the charge to remove weeds (discussed in detail below), he reported clearer and greater success with enforcing the smoke prevention law, with plants making changes to the type of fuel they were burning and paying fines or forfeiting collateral if they failed to comply (see, for example, (District of Columbia Board of Health 1903, 29)).

In the years immediately prior to the passing of the weed removal law, discourse was bubbling in local newspapers seeking solutions for the "weed problem" that was tarnishing the city's image aesthetically. One article mentions a weed ordinance in Williamsport, Pennsylvania, claiming that creating a similar law for the District of Columbia might add "to the beauties of the capital," underscoring this by arguing: "the general appearance of the city is a factor of first importance in attracting visitors to return and in inducing persons of wealth and leisure to settle here permanently" (*Washington Evening Star* 1897a, 6). Weeds were posed as threatening the goal of a neat and tidy city, and risking loss of the financial benefits of wealthy people of high taste who would ostensibly not settle somewhere that was not "attractive" and "beautiful." The very presence of the weeds acted as a sort of foil for people to advocate for particular visions of what the city could and "should" look like. Identifying the weedy plants as a hindrance to the aesthetic appeal of the city positions the complainants as suggesting a solution to a problem, rather than just wishing for a different aesthetic. This construction, though posed as "common

sense," was one in a long line of ways in which people at the time, particularly the elite, created an exchange between undesired "nature" and the idealized "city" in a similar way to the way Michel Foucault describes the creation of the constructed "exchange between madness and reason" a century earlier (Foucault 1965, x).

Along with weeds crowding lots in the residential parts of the city, "undesirable" plants made their presence felt extremely close to epicenters of power as well; botanist Lyster Dewey describes an abundance of weeds near the President's house in late nineteenth century Washington:

In Washington, D.C., a vacant lot three blocks from the White House was covered during the summer of 1898 with a luxuriant growth of burdocks, even the signboard being hidden by the weeds. (Dewey 1899, 198)

While part of the dynamic of weeds so close to the White House had to do with Washington still being a comparatively "new" city, and therefore not nearly as fully occupied by humans as it is today, that the "luxuriant" burdocks were so plentiful as to cover the signboard directing people to the White House suggests that weeds were prevalent even quite close to and in the ceremonial core of the city at the time. Just a short carriage ride down Pennsylvania Avenue, in late March, 1899, shortly after the Weed Removal Act was passed, the *Washington Evening Star* ran a notice of a "Patriotic Planting" planned for the grounds of the U.S. Capitol:

The grounds on the north side of the Capitol are now being improved. The weeds had made such headway that it was decided to plow them under, and the ground is being narrowed, and in a few days a patriotic lawn will be started. This patriotic lawn will be made up of the national colors – red top, white clover and blue grass. (*Washington Evening Star* 1899a, 6)

In this way, weeds themselves appear to have inspired somewhat heavy-handed responses: rather than simply pulling them and restoring the Frederick Law Olmsted design for the Capitol grounds, it seems that the instinct was to completely obliterate even the thought that the weeds could have marred the visual image of the symbolic and literal seat of power with a deliberately overt planted ode to patriotic order and simplicity. The instinct to "plow weeds under" and replace them with neat and pre-approved plants with patriotic colors reveals an attempt on the part of officials to replace undesirable objects with more desirable ones, but not addressing larger issues or acknowledging or finding ways to work with weedy

plants that were sure to keep coming back. The "patriotic lawn" is emblematic of planning and planting practices predicated on objects and forms that can be quickly "fixed" rather than one aware of relations and processes among people, plants, materials, time, and other factors in the growing and changing city (Graham and Healey 1999, 642). This is also emblematic of both a moment in time in which the lawn itself was an important part of the American design aesthetic, but also references the long history of lawn as materially and psychologically important, continuing, strengthening, and becoming more dangerous to human and environmental health as the twentieth century went on (Robbins 2007).

Years later, undeterred by time or any number of patriotic lawn plantings, reports of weeds throughout the city also indicated they were also encroaching on the House of Representatives building:

Let the vacant lots in various parts of this city be kept in proper condition. Recent trips on the street cars have revealed acres of rank vegetation, weeds and grass and shrubs, which are made the dumping ground of decaying plants and animals. Within three hundred yards of the House of Representatives are patches of this kind. Let the investigating committee examine them at the same time that they are exterminating the microbes in the public wells. (*Washington Evening Star* 1906a, 3)

That the "proper condition" of vacant lots does not, in this author's estimation, include weeds, seems more a function of what the weeds attract (as a "dumping ground"), though the phrase "rank vegetation" also poses the weeds as a problem in and of themselves. This example broaches the topics of both the aesthetic concerns of weeds and the additional nuisances they attract, as well as the (assumed) public health implications. That vacant lots "in various parts of this city" be kept free of weeds and other undesirable substances and smells, like decaying plants and dead animals is somewhat vague, but very likely insinuates the parts of the city frequented by wealthy and elite members of Washington society. In this way, whether limited to wealthy areas or not, the expectation for weed and waste free city space necessitates sending uprooted weeds and other waste elsewhere, out of the public view (and scent). This act, of ridding one place of waste, inevitably burdens another place and other people with waste products, whether a less 'advantaged' city neighborhood, or a place further afield. What is construed and treated as waste from one place does not magically disappear when unwanted, but is intricately bound in social and

material relations with other people and places, quite often other people and places with significantly less money and political power to control their environment.⁷

In addition to aesthetic concerns, fears circulated that weeds throughout the city were dangerous to people's health. In Alexandria, at the time a contiguous independent city though for a brief time part of the District of Columbia, "unhealthy conditions" were attributed to "the large crop of weeds growing," and observers called directly on the health officer to provide a "remedy" and to put the city "in a first-class sanitary condition" (*Washington Evening Star* 1897b, 10). This association with unhealthiness and the implication that ridding the city of weeds would help create "sanitary" conditions is a theme that runs throughout the discourse at the time. Urban weed historian Zachary Falck describes how this framing of weeds as a problem for human health that could only be solved by ridding the environment of the plants contributed to a somewhat aggrandized sense of the plants' dangers:

Classifying weeds as nuisances, like the dense smoke that rose from powerful locomotives, the foul fumes released by boiling animal organs to produce fertilizer, and the cacophonous crashes of sledgehammers smashing against anvils, severed the plants' roots from the earth and transplanted them into a legal framework in which only human responsibility for environmental conditions mattered. The plants were not creatures that changed with ecological time, but green garbage strewn about by irresponsible property owners. As nuisances, weeds were both unlawful and unnatural, a pollution problem of unhealthy, disorderly environments (Falck 2011, 40).

Falck's juxtaposition of weedy "creatures" with such substances more readily akin to nuisance as "dense smoke," "foul fumes," and "cacophonous crashes," diminishes the significance of weeds as problematic and highlights some of the more pressing challenges of life in the early twentieth-century city. This twenty-first century view does discount the prevalence and intensity of people's lived experience with weedy plants, which based on visual and textual evidence from the period was significant. That weeds were not the greatest or most harmful nuisance does not negate that people found them bothersome and wanted to rid their neighborhoods of them. Whether these desires were founded in valid or reasonable concerns for human health is a question discussed at length below.

⁷ Discussion of the need to consider implications of where waste products from plant and other materials would end up and who would ultimately be burdened by them was common in Julie Bargmann's landscape architecture studio reviews at the University of Virginia School of Architecture which I attended regularly from 2013-2015.

Beyond simple examples of weeds in neighborhoods throughout the city, the discussion of the need to rid oneself and one's home and neighborhood of weedy plants also appeared in more general writings of the time. Botanist Lyster Dewey discusses the alleged dangers of and the need to exterminate particular plants harmful to human health on city properties:

A vacant lot unused and given up to the growth of weeds is of very little benefit to anyone, and is, furthermore, a source of danger if not of certain injury to the community. The public welfare demands that all elements dangerous to life or health be removed. This would require the extermination of the jimson weed, pokeweed, and other poisonous plants. It would also require the removal or destruction by fire of all masses of coarse weeds as soon as they stop growing. These requirements are sometimes secured by the regulations of health officers (Dewey 1899, 199).

Dewey implies that contact with these dangerous plants might be troublesome as well as that weedy plants are a danger to health and no longer helpful ecologically once dead and decaying. Botanists were not the only people encouraged to consider weeds as crisis: a didactic column circulated during the period intended for women caring for home and children; in addition to recommending various methods for bathing infants' "creases and folds" and techniques for baking the perfect peach charlotte, the columnist implored women to ensure that their homes and gardens stayed clear of weeds:

Now is the 'season of our discontent' if back yards and alleys have been left uncared for, and the malodorous rag weed and his fellows of the baser sort left to flaunt their shame in the nostrils of every passer-by. Not only is the rank effluvium from these noxious weeds most offensive, especially at nightfall or after a shower, but most physicians declare their odor to be a menace to health itself. With this understanding it behooves every housewife to see to it that her back yard and alleys are kept free from the high green stalks whose poisonous exhalations threaten the wellbeing of her little flock. (*Washington Evening Star* 1897c, 16).

These declarations that "poisonous exhalations" might "threaten" a mother's "little flock," while not the only fear-inducing language used to shame women into doing "the right thing," certainly must have added to the foment around weeds and their supposed dangers to health and well-being. These arguments make clear that weeds were the enemy and that one's social responsibility was to keep weeds at bay, or risk the health of children and family.

Women were not the only ones coerced into ridding home environments of weeds: prominent cartoonist of the period Clifford Berryman depicts a young boy bidden to pull all of the weeds in the yard before he can play in the bathing pool (Figure 4.4). The boy and his dog are sweating profusely in the



Figure 4.4. Cartoon by Clifford Berryman for the Washington Evening Star, August 15, 1915.

August heat of swampy Washington, and surrounded in a thick, knee-high crop of weeds within the home's white picket fence. The boy's style of dress and the "thought" Berryman assigned him: "and these are supposed to be vacation days" suggest that he and his family are of significant enough means to support a fashionable style of dress, even for an activity such as weed pulling, and that he is not accustomed to "working" during his vacation from school, as many children of the period were forced to do, both inside and outside the home. Apart from the weeds, though placeless, the general environs of the home, with the neat picket fence and a set of stairs leading up to what appears to be an expansive and detached front porch also positions the boy and his family firmly in an upper-class home and neighborhood, further evidence of weeds primarily concerning people with enough means to have time on their hands. The image reinforces the association of weeds as likely a problem created and inconveniencing the wealthier people of the city, perpetuating a sense that the weedy plants and other nuisances "should" be under control for the benefit of high class Washingtonians. In this particular image, which is itself an instrument of social control, the figure of the child is also representative of societal control of humans and nonhumans with lesser status and less power to advocate for their own well-being. Children themselves were and are often considered second-class citizens, but may also in some ways represent any human or nonhuman entity without the social power to speak up for themselves. Through controlling the child's activities and withholding play and comfort, the cartoonist and the city at large curated the physical and social environment to meet expectations for cleanliness and aesthetic appeal.

Residents of Georgetown who lived near an old graveyard were explicitly eager for the Weed Removal Act to be passed; according to neighbors, the weed-filled graveyard was allegedly responsible for spreading pollution and causing disease:

The residents say that this place is largely responsible for the dissemination of disease germs. Right in the midst of the most thickly populated section of Georgetown, where the children outnumber adults ten to one, and where the houses are small and sanitary arrangements poor, a solid block of vegetable decay stands. Ever since 1885, it is contended, when the place was closed to further burials, vegetable deposits and the refuse of abutting residences have piled up there. The rankest, most ill-smelling of weeds are choking each other and polluting the atmosphere. The people are demanding that this ill-smelling deposit be removed. (*Washington Evening Star* 1898b, 12)

While the "refuse of abutting residences" was surely part of the perceived problem, the discourse neighbors circulated pitted the weeds themselves, the "solid block of vegetable decay," as injurious to healthy conditions. While the District of Columbia neighborhood of Georgetown today is one of the wealthiest and most deliberately exclusive parts of the city, in the late 1800s, the article describes this particular area as one where "children outnumber adults ten to one," and "the houses are small and sanitary arrangements poor." Ridding the area of the plants, which the authors depict as wildly out of control ("choking each other") seems like a direct precursor to ridding the area of the human population that similarly did not conform with elite expectations of what the city should look and feel like and how it should operate, which we might infer would be with a higher ratio of adults to children, larger houses, and more sophisticated "sanitary arrangements." The article intimates that the weed's fumes have the power to disseminate disease by "polluting the atmosphere" - in this way, urban weeds languishing in a former cemetery are painted as having uncertain and dangerous powers to harm people living and walking nearby, particularly people of means and status able to comment on those perceived as "beneath" them, and this uncertainty and danger contributed to a sense of fear beyond simple concerns about aesthetics, and into territory of sensational desires to see weeds completely abolished, lest the fears of their fumes polluting the atmosphere and disseminating disease come true.

Although the least frequent, complaints also circulated around the idea of weeds as menace to public safety. Largely speculative, not based on actual reports of criminal activity, officers of the law were said to have noted that weedy lots might provide cover for nefarious deeds:

Chief Clerk Sylvester, as well as many police officials, favors the adoption of a regulation which will require the owners of vacant lots to keep them free of weeds. These overgrown places, the police find, are good hiding places for criminals, and have assisted many a violator of law to escape the others. (*Washington Evening Star* 1897d, 10)

Despite assertions that vacant lots overgrown with weeds provided "hiding places" and assisted with escapes, none of the annual Metropolitan Police reports from the period mention weeds as an issue arising in daily policing practice. Paul Draus and Juliette Roddy discuss how in contemporary times places in

cities that initially inspire fearful imaginaries can be made more frightening not by actual occurrence of criminal activity, but by human behavior and response:

The risk and fear associated with weedy and trash-strewn landscapes may directly alter residents' behaviors within and around those patches, thereby reinforcing their distinctiveness, but also potentially their danger. Society and nature interact dynamically, over time, in the spaces of the city (Draus and Roddy 2018, 810).

As is still true today, people often make assumptions about vacancy and weediness that do not actually play out as issues in recorded criminal activity, but that perception and fear can guide human behavior and response to physical places, leading to further mystique and negative associations. Draus and Roddy's assertion about the dynamic interaction between society and nature is often lost in evidence such as that presented here, which seeks to vilify and erase particular configurations, in this case urban areas not occupied with active human use that become habitat for weedy plants, rather than to acknowledge and incorporate relational interconnections between human and nonhuman activity in the city.

Concerns about weeds offending aesthetic sensibilities, contributing to public health issues, and causing public safety concerns led to the authorship and passage of the Weed Removal Act in March of 1899. At the turn of the twentieth century, Washington, D.C. was under the jurisdiction of the Federal government, so all laws governing local activities went through both houses of Congress. When the weed removal bill was introduced on the Senate floor, Senator Hepburn from Iowa raised concerns about the cost of publishing notice in local papers to inform absentee landowners of impending taxation if they did not remove weeds from their property. Senator Richardson explained the rationale for the notification in local papers, stating: "The object of this bill is to keep unoccupied squares in a sanitary condition, and so forth. I hope there will be no objection to the bill" (United States Senate 1899a, 936). The Senator seemed to imply that the matter was very straightforward, dealing with maintaining city squares in a "sanitary condition," a word and turn of phrase often associated with basic human health and hygiene, and as such should not require a great deal of debate or opposition.

Congress passed the act in just that way, with very little debate, less than two months later, on March 1, 1899. The Senate Report on the bill suggested it was required to "correct a very grave abuse" that offended notions of aesthetic appeal, endangered public health, and contributed to criminal activity:

In spring and summer the weeds that grow to a height of 4 or 5 feet on the vacant lots throughout the city present an unsightly appearance, offsetting the beauty of the parks. These weeds are a menace to health, and, as the Commissioners say, furnish resorts for the vicious (United States Senate 1899b).

The lack of debate on the bill as well as the strong language of the Senate Report ("unsightly," "menace to health," "resorts for the vicious") indicate that the lawmakers shared or at least tacitly supported the sentiment of the discourse fomenting at the time condemning weeds as problematic and requiring eradication. Thus, through a series of neighborhood complaints, sensational newspaper articles, and congressional hearings, weeds in the city of Washington were differentiated as "irregularities" to be avoided or repaired in the making of the ideal twentieth century city. Weeds were constructed as contrary to "regular" and desirable city space, vital contributors to what Foucault's concept of heterotopias, which:

...have a function in relation to all the space that remains. This function unfolds between two extreme poles. Either their role is to create a space of illusion that exposes every real space, all the sites inside of which human life is partitioned, as still more illusory...or else, on the contrary, their role is to create a space that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill constructed, and jumbled. This latter type would be the heterotopia, not of illusion, but of compensation (Foucault 1984, 8).

In this way, people of late nineteenth-century Washington envisioned ridding the city of weeds as a step towards achieving the opposite of heterotopia. Taking action to enforce the aims of the Weed Removal Act, however, would prove far more difficult than perhaps the complainants or the lawmakers imagined.

Weeding Washington

Classed by the District of Columbia Board of Commissioners as a public health issue, the removal of weeds subsequently became the responsibility of the Health Officer of the District of Columbia, William C. Woodward, who delegated this task to his sanitary inspection team, who also inspected and remediated other "nuisances" such as "filthy alleys," "unlawful privies," and "houses unfit for habitation" (District of Columbia Board of Health 1900). Figure 4.5 details the Health Officer's

nuisance report from a sample year in the period, Fiscal Year 1901-1902, showing 1,122 reported nuisances of weeds, among the top reported nuisances of that year, along with yards (3,648), waterclosets (1,510), full privies (1,490), and sewers (1,034) (District of Columbia Board of Health 1902, 51). Just as in comparison with the smoke prevention act, however, the weed removal law presented many more challenges than issuing citations or fines or enforcing nuisances like yards not kept "clean and wholesome" or overfull privies. The latter types of nuisance are directly related to active human presence and activity, while the greatest perpetrators targeted by the weed removal law were absentee landowners who allowed their properties to become fully vegetated without buildings or maintenance, and were thus inherently more difficult to contact, cite, and fine.

From the very beginning, the process of identifying infractions and enforcing the weed removal law posed a problem for the health officer and his staff. In his 1908 report, the health officer details the process of enforcing the Weed Removal Act:

The owner of the land upon which the forbidden weeds are located is entitled to notice and if he can not be found notice may be given by publication. This requires the accurate determination of the location of the weeds with respect to lot and square, and the subsequent discovery of the name and address of the owner of the land. Then follows service of notice, and subsequent reinspection to see whether it has been complied with. In case of noncompliance there must be prosecution in the police court or the removal of the weeds under the assessment system, or both. (District of Columbia Board of Health 1908, 28)

While not the only law on the books causing difficulty due to limited governmental capacity, the vague language used to describe what a "weed" was, as well as the sheer number of weedy lots throughout the city made ridding the city of weeds a virtually impossible task. As the health officer describes, the process of identifying violators and ensuring compliance required multiple interrelated steps for each case. The bill is also noticeably silent on a specific definition of a "weed"; the only description provided is of a plant "four or more inches in height" which became a major point of contention as the health officer and his team attempted to enforce the law (United States Congress 1899). In addition to an overly simplistic definition of the concept of "weed" which made it exceedingly difficult to operationalize and essentially left open for complainants and sanitation workers to define on their own, another hole in the weed

APPENDIX E.

SHOWING WORK DONE IN THE GENERAL SANITARY AND FOOD INSPECTION SERVICE.

Showing the number of	nuisances rep	orted in the D	istrict of Columbia	a during the fiscal year
ended June 30,	1902, with refe	erence to natu	re of nuisance an	d date of report.

Total.	1902.							1.	190				
	June.	May.	Apr.	Mar.	Feb.	Jan.	Dec.	Nov.	Oct.	Sept.	Aug.	July.	Nature of nuisance.
										75		1	Alleys:
260	51 1	30	11	10	2	$\frac{6}{1}$	12	22	54	21	28	13	Filthy Need repair
5	7	4	6	7	1	5	1	4	2	5	10	1	Areas
5	2	i	ĩ	ż	2	19	1000 C 1000	9	-		2	11	Ashes.
19	20	27	16	16	10	7	6	8	10		27		ellars
30	40	29	18						12	17		32	boimmen marte
				39	17	13	19	18	33	18	34	27	brainage, surface
7	6	5	5	1				3	5	16	18	20	arbage
	1	2	1	•••••					1	2			logpens louses:
9	7	13	13	13	6	7	5	11	6	2	7	6	Filthy
1		=1	10	1		2	1		1		b	2	Unfit for habitation
1			1		1	malti		1					Slaughter
2	3	1	3	4	ì		1	i	7		1	1	No privy
13	14		9	33	9	8	15	18	17	4	5	13	Filthy
7	7	12		22	$\frac{2}{3}$		3				4	17	Stagnant water
13	9	13	10	9	5				6	2			lanure
47	49	51				1	13	7	20	6	13	26	liscellaneous
	1	91	30	39	17	44	19	35	30	24	64	*76	
	1.123			1	1	•••••						•••••	Privies:
36	7	17	17	10		7	76	40	85	4	63	41	Filthy
47	71	81	29	71	3	20	84	16	59	10	6	21	UIIIaWIIII
1,49	160	152	109	54	53	149	72	139	300	76	137	89	rull
10	20	19	3	10			5	4	16	15	14	2	Leaky boxes
43	10	85	30	30	163	116			10	10	14	-	NO Dermit
9	6	3	10	20	14	6	10						Roofs, leaky
1.03	93	131	112	62			13	1	18		1	4	ewers
28	42	24			54	93	76	102	90	63	70	88	ewere composition
5	10		93	6	18	13	27	29	34	15	22	41	ewers, connections
ĩ	10	7	3	2	1		3	4	1	2	9	11	stables
		1			1		2	1	6	1	1		l'raps, sewer
3,64	340	616	461	342 1	79	297	211	366	463	115	207	151	aults, privy
1,51	154	188	178	124	93	139	80	119	169	65	116	85	Wharves
1,12	48	11	1							1		328	
				1					70	276	388	328	Wells
12,55	1,179	1,525	1,096	935	547	953	744	958	1,505	760	1,247	1,106	

Figure 4.5. District of Columbia Health Officer Report of Nuisances for Fiscal Year 1901-1902.

removal law's coverage relates to definition of which exact species of plants should be considered "weeds." No guiding information about species or types of plants is included in the language of the law, so it remains open to interpretation. Assistant District Attorney Clarence Brandenburg, in a 1900 opinion, considered whether plants such as grass and honeysuckles, in many cases seen as plants to cultivate or celebrate, should fall under the purview of the law:

There is a rank growth upon the lots in question, more than four inches in height. The report of the inspector shows that this growth consists of grass and honeysuckles. The question is, are tall grass and honeysuckle weeds within the meaning of that word as used in the act of Congress? Grass and honeysuckle do not come within the ordinary and commonly accepted meaning of the term weeds, though when permitted to grow unrestrained they may become, as in this case, equally obnoxious as any ordinary weed. In my opinion, while I regret to say I am unable to fortify by authority, the word weeds, as used in the act of Congress in question, does not embrace grass and honeysuckle. (*Washington Evening Star* 1900b, 11)

The lack of clarity on what constituted a weed, both in terms of plant species as well as other characteristics that might have simplified enforcement, made a challenging task even more difficult, as complaints about "weeds" could range far and wide and entail nearly any type or configuration of plants without a more specific, concrete definition. In addition to making enforcement challenging, this open definition of "weeds" also left any and all plants at the whim of the people around them, in a sense reinforcing the extremely human-centric planning and regulatory approaches to the capital city. This reinforced the view at the time that the city was created with human experience in mind, and that all other parts of city life should support that, contrary to a more relational approach to planning. When any plant can be a weed and human inhabitants of the city can decide to uproot them at will, this supports the view that "human life is (supposedly at least) sacred; all other life is anything but: a resource (at best) with no rights and no intrinsic value (Graham and Healey 1999, 306).

Throughout the early twentieth century, each time the Health Officer mentioned weed removal in his annual reports, he urged the same modifications to the law, with increasingly insistent language and decreasing number of words. His most consistent argument was that despite the strident, fear-mongering discourse leading to the passage of the Weed Removal Act as well as the language of the act itself, weeds actually did not pose any sort of public health threat, and the question of their removal was purely an

aesthetic one. According to him, weed removal should not even fall under the purview of the health department, and any time his sanitary inspection officers spent dealing with weed-related issues was time spent away from "other and more important work of the department" (District of Columbia Board of Health 1900, 26). In 1902, Woodward made his first official attempt to amend the law, appealing to the Commissioners of the District of Columbia that the required weed height be increased from four inches to eighteen inches. His rationale was that the fourteen-inch difference would not be significant, and furthermore that weeds, in his estimation, were not a health issue, but an aesthetic one: "The purpose of the law seems to be aesthetic, as there is no evidence to show that weeds per se are detrimental to health; in fact, there is no scientific distinction between weeds and other vegetation" (United States Senate 1902).

The Health Officer's assertions are particularly interesting in contrast to language used by the lawmakers just a few years prior, that cast weeds as "a menace to health" (United States Senate 1899b). The Health Officer, fervent in his desire to strike weed removal from the list of responsibilities of the Health Department, calls into question whether actual evidence showed at the time that weeds posed any sort of health risk. Thus, this is a case of "weeds" fulfilling Richard Mabey's definition as plants "out of place" on human terms that can be vilified by one person or group of people, and ignored or of little consequence to others, in this situation in the span of a very short time in the same place with the same officials. Mabey, echoing social construction theory, asserts: "weeds are not only plants in the wrong place, but plants which have slipped into the wrong culture," making a strong case that the same plant can be considered a necessary, even beautiful part of a landscape or a weed to be eradicated, depending simply on its location and context (Mabey 2010, 11). This relativist claim acknowledges the assumed power people have and in some cases use to determine the types of plants that are welcome in a particular place and time. Selection of particular plants as "weeds" is a deliberate choice, a social construction that attempts to refute the relationality between people and particular plants in urban environments. The plant material on the ground in Washington could not have changed that quickly from a "menace to health" to plants with no evidence of detriment to humans, so it appears that the lawmakers adopted concerns from the public that perhaps were not founded in solid evidence or reasoning. One open question is whether the Weed Removal Act would have passed without the public health rhetoric, if it were a purely "aesthetic" bill? The most convincing language in popular and governmental discourse posited weeds throughout the city as a health risk; if that argument was unfounded, it is an open question whether the law would have been passed at all.

Although the Weed Removal Act remained unchanged, the Health Officer repeatedly stated that the weeds covered under the law should be re-defined from those of a maximum of four inches in height to at least eighteen inches. He argued:

The weed law may be of some value from a police standpoint, but even in this way the requirement of the present law, that weeds be kept within 4 inches of the ground, is too strict. A weed 6, 12, or even 18, inches high is not likely to afford a hiding place for criminals. Neither is a weed below 18 inches likely to afford a place of deposit for offensive matters. Previous recommendations of this department for the amendment of this law to make the minimum permissible height 18 inches, instead of 4 inches, are renewed. (District of Columbia Board of Health 1903, 22)

Woodward's appeals to the logical implications of the reasoning behind safety and waste-related concerns were continually ignored. In a way, Woodward was attempting to bring more of his reality of material conditions on the ground to the way the city was being regulated, highlighting the contrast between planners' and lawmakers' conceptions of what will work with actual conditions on the ground. Robert Beauregard in *Planning Matter* explains that: "our representations of the world are always deficient, not in the sense of being wrong but in falling ever short of completeness. Material reality always exceeds our grasp and exists regardless of what we know about it" (Beauregard 2015, 4). While Woodward's arguments about material conditions could not approximate a "full" representation, his concern with the way things actually worked challenged decisionmakers to more closely relate to what was happening on the ground. His arguments highlight an old but still ongoing dissonance between what Beauregard considers necessary, both "discursive understandings and material engagements" (Beauregard 2015, 7).

Woodward discusses the weed removal issue at length in his 1906 report, concluding: "After a careful consideration of the entire subject I find no reason for believing that vacant places overgrown with weeds are material detrimental to public health" (District of Columbia Board of Health 1906, 41). This statement makes his opinion abundantly clear: he attempts to absolve himself and his officers of all

responsibility of enforcing the Weed Removal Act, since in his estimation, weeds have no direct connection with negative public health outcomes. Despite this statement, among many others, the Weed Removal Act continued under the charge of the Health Officer throughout the early twentieth century. A few years later, still attempting to make some sense of the law or at least narrow the scope of it to allow his team of inspectors the ability to enforce it properly given limited time and resources, Woodward further argued that arbitrarily and universally limiting weed height did not actually address how this might be operationalized in practice. In his 1908 report, he discusses how the simple height limitation does not adequately account for the total number of plants, or for the degree to which they are spread over a particular property:

The law is silent as to the number of weeds that may be permitted within any given area. If literally interpreted, two weeds each 5 inches high would form a lawful basis for action, and even with a reasonable interpretation as to the number and height of weeds its universal enforcement throughout the city and the more densely populated suburbs would be so expensive as to be practically out of the question. For that reason it seems best that the law should be substantially modified, as, for instance, by raising the permissible height of weeds to 2 feet, and by providing that not more than 10 per cent of any lot or parcel of land, and in any event no unbroken area covering more than 100 square feet of land, should be so covered. (District of Columbia Board of Health 1908, 28)

The Health Department's continually frustrated efforts to enforce the Weed Removal Act demonstrate the way that the plants themselves, fast-growing and wide-ranging, rendered efforts to create and enforce a universal order moot. Urban weed historian Zachary Falck contends that the strict criteria, the "geographical-biological criteria to classify plants as nuisances" enacted by the weed removal law Woodward was arguing to alter were "abstract, unecological, and unrefined and created more nuisances than either city could control" (Falck 2011, 45). In Falck's estimation, the terms of the weed removal law defined weeds in such a way that even if one agreed that the plants were injurious to health, which Woodward did not, enforcement would be impossibly onerous and "create" nuisance even above and beyond what perhaps was initially identified by people and lawmakers in the city. This is especially ironic considering the ways in which human interference with plant growth is among the most important factors contributing to the ways they grow and change. In their *Natural History of Vacant Lots*, Matthew Vessel and Herbert Wong describe how:

These plants' struggle for life and their energy relationships with other organisms illustrate the character of this ecosystem. The abiotic factors – water, wind, soil, and so on – limit the sustained growth of plants in waysides and roadways, but as a biotic factor, humans remain the principal change agent. Attempts to control weedy plants by mowing, cultivating, or spraying often initiate the beginning of a new cycle of growth. As soon as conditions are suitable, the plants sprout and start growing again (Vessel and Wong 1987, 23).

Just as "nature" was constructed and deployed in a certain way in the McMillan Plan, "weeds" were constructed and managed in specific ways in the Weed Removal Act and in the ensuing years attempts to enforce it, but it was never a simple matter of a proclamation that led to easy removal: negotiations with the abundant plant material played out the larger arguments about order and neatness in an undeniably physical way. The plants could not (and can not) be ignored – they thrive in the exact places people wish to rid of them, and even in response to direct action taken to "control" or eliminate them.

As the Health Officer's testimony reveals, the passage of the Weed Removal Act did not ensure eradication of weeds throughout the city. On the contrary, with the law on the books, people came to expect that weeds should not be part of their everyday landscape, and complaints like this one appeared in daily newspapers about weeds throughout the city:

To the Editor of the Evening Star: The previous neglect of the parking on Pennsylvania avenue east from 2d street to the new bridge is notorious, but the present season's neglect outranks all others. No attempt is made to cut the grass, and at present weeds stand three feet high, presenting a picture of neglect, a sad contrast to the beautiful grass plots along the boulevards in Chicago, Boston, and other cities. The repairs made by the railroad and electric light companies have left unsightly bare places, which the parking commission should resod and charge to the corporations in question. Pennsylvania avenue presents great opportunities to make it a beautiful thoroughfare, and its present neglect is a disgrace. (*Washington Evening Star* 1899c, 10)

Weedy unwanted plants were often associated with ugliness and neglect, as here where the complainant describes the plants at three feet high, exceeding even Woodward's highest threshold. The author compares the conditions of Pennsylvania avenue with the "beautiful grass plots" in Chicago and Boston, idealizing neat and orderly material conditions in other cities as superior to Washington's weediness and laments the missed opportunity for "a beautiful thoroughfare." This and other complainants assert expectations that Washington's public spaces should be weed-free and overtly cared for, and associate weeds with unruliness and "neglect." Perhaps the highest expectations existed for places like ceremonial Pennsylvania Avenue, and other parts of Washington's monumental core. Observers expected these

places to reflect a certain type of beauty, a curated kind of "nature" conforming to human expectations, but weeds appeared even in the most high profile places:

To the Editor of The Evening Star: It has been observed with much regret, that all the parks and public grounds, like those about the Executive Mansion, show great lack of proper care. The flowers, it is true, are beautiful and abundant, but the grounds themselves present a very unkempt appearance. There are great tufts of rank grass, garlic and countless weeds, and in many places great patches of bare earth; the flower beds and paths are untrimmed, and altogether, things look very much neglected. Certainly in the national capital, where there are such great possibilities and where everything should be in the highest state of perfection, there should be no room for such adverse criticism. Who is responsible? It is hoped that steps will be taken to improve the present condition. - An Observer. (*Washington Evening Star* 1900a, 7)

This observer clearly states the expectation that in Washington, "everything should be in the highest state of perfection." While the weeds are only one of the issues the observer raises, they are clearly interfering with this and other observers' visions for the capital city as a "perfect" place, a vision coming from both the "top-down" origins of the McMillan Plan as well as the complaints of city residents writing to the daily newspapers and complaining to the health officer about weediness and disorder. Ironically, despite the pervasiveness of visions for order and perfection, and the purported importance both visionary professionals and citizens saw for orderly urban nature conforming to human expectations, even government-owned properties often were not clear of unwanted vegetation:

Israel W. Stone, 17 12th street southeast, who complained of the growth of weeds on the parking at the southwest corner of East Capitol and 12th streets, has been informed by the District Commissioners that the property being owned by the United States they know of no law under which the owner of the adjoining property can be required to remove the weeds. (*Washington Evening Star* 1899b, 3)

As it became clear year after year that the Weed Removal Act as constructed was not and could not be enforced universally, complainants and others began to shift the narrative from expectations of the health officer and the government more broadly to a call for residents' social responsibility to take care of the "weed problem" themselves. This call for social responsibility emerged in spite of the health officer's declaration that weeds were not responsible for public health issues:

It is probably true, as the health officer reports, that there is no more harm in the weeds themselves than in any other vegetable growths. But there can be no doubt that there is a marked difference between a weed-grown lot and a well-kept garden or park, the former being always damp and usually ill smelling and the latter well drained and sweet. The weeds are believed to harbor mosquitoes, which breed in the small pools of rain water that form in the inequalities of the ground around their roots. They prevent evaporation and conceal refuse of an insanitary character. They are certainly not wholesome, whether their pollen or their natural odors are innocuous or not. Insomuch as the municipal government is helpless in this matter, there develops a duty bearing upon the citizens themselves, who should meet the emergency in a spirit of self-help and public service. (*Washington Evening Star* 1906b).

This call for people to take "the emergency" into their own hands seems quite a bit less powerful than the

pre-Weed Removal Act discourse: while some of the same issues are presented, such as bad smells,

garbage, and "unwholesomeness," these seem to hold quite a bit less weight without the force of

association with potential public health complications.

Throughout the early twentieth century, visions for perfection and order were difficult to realize.

Weeds, defined as any plants exceeding four inches in height that people complained about,

unsurprisingly abounded throughout the city, and observers noted that despite the Health Officer and

Sanitary Inspector's efforts, the weed removal law was not being enforced or adhered to:

In spite of the protests that are being made by persons who live near a growth of eight or ten feet of weeds, the District of Columbia is finding itself unable to force any one to cut the noxious growths. The weed law at present has all the appearances of a dead letter, and instead of weeds being trimmed to a height of four inches, there are plenty of vacant lots in the city which would hide a regiment of National Guardsmen in broad daylight. (*Washington Evening Star* 1910, 15)

That the Weed Removal Act could so easily be described as a "dead letter," and that lots with plants growing eight to ten feet high persisted over a decade after the law was passed underscores the presence and persistence of weeds as non-human participants in the formation of the city. The weed removal law survived a legal challenge during the period when real estate developer Galen Green, in a case against weedy conditions on one of his properties, attempted to argue that uneven treatment of resident vs. non-resident property owners in section two of the law ought to void the law entirely – the court determined that the issue Green raised, while potentially problematic, was not at hand in his particular case, and therefore not sufficient to warrant consideration of the validity of the law itself (Police Court of the District of Columbia 1907).⁸ Thus there continued to be dissonance between those tasked with enforcing

⁸ Green and his attorney cited *St. Louis v. Galt* in their testimony, a 1903 case in St. Louis, Missouri in which the defendant attempted to challenge that city's constitutional right to weed removal, which rather led to the establishment of validity of weed removal ordinances (see Falck 2011 for a discussion of the St. Louis case)

and upholding the law and people on the ground in the city who found it to be too vague, too restrictive, and too onerous.

Weeds continued to thwart planning and regulatory visions for perfection and order, and the health officer and his team of inspectors, as well as the Board of Commissioners were often ridiculed for their inability to enforce the law and keep the city weed-free, despite the documented difficulties in doing so. These challenges continued year after year, and by August of 1921 were featured in a satiric cartoon by Clifford Berryman that appeared on the front page of the Washington Evening Star (Figure 4.6). This cartoon, one of a series of over 2,000 created by the artist in the period to comment on and critique various issues in local and congressional politics, depicts James Frederick Oyster, one of the members of the Board of Commissioners, trampling in what looks to be a veritable jungle of weeds covering a sign in the shadow of the U.S. Capitol building, which contains an excerpt from the Weed Removal Act. Ovster is thinking: "That's too good to remain hidden," and it appears that the weed growth is significant enough to necessitate him wielding a large scythe, ostensibly to cut down weeds so that people can read the sign. That the irony of the posted notice of the weed removal law made the front page of the prominent evening newspaper (along with other issues such as presidential selection of delegates and bootleggers not paying income taxes), suggests the visibility of the ineffectiveness of the law at the time, the depth and intensity of embarrassment and ridicule the Board of Commissioners and health officer received, and the extent and ubiquity of unrestrained plant growth in the city during the period.

Extant photographic evidence of weeds in the city suggests the many claims by the health officer that the law was impossible to enforce held some truth. Photographs such as a series from the Kiplinger Research Library collection (see Figure 4.7, Figure 4.8, Figure 4.9, end of chapter) are of a very few that show such conditions – these are photographs of "unimproved areas" of the city, likely taken as part of a project to incite development of the areas, all of which are in areas that would become "prime" urban locations in the decades to follow. The images in this collection closer to the city center depict scenes where order still primarily reigns (Figure 4.7 and Figure 4.8) while the one further afield looks wildly



Figure 4.6. Cartoon by Clifford Berryman for the *Washington Evening Star*, August 22, 1921 unkempt (Figure 4.9). Photographs during the period were expensive to produce, and it is likely that these were taken from the point of view of speculation and extension of existing power and wealth structures,

with an eye towards continuing the process of development and growth in services of the larger goals of Washington's elite property owners.

Prior to passage of the Weed Removal Act, social and legal discourse constructed the weeds as menace to public health, aesthetic sensibilities, and public safety, reaching a height of concern that allowed the law to be passed. In the ensuing years, however, the narrative about health was deconstructed through the testimony of the health officer. Despite use of words such as "emergency" to discuss weedy lots, the prevalence of weeds throughout the city did not cause major public health concerns. The lack of worsening health conditions despite continued complaints from residents and

reports such as the former of weeds so high they could "hide a regiment of National Guardsmen in broad daylight" necessitated changing expectations to continue to co-exist with unplanted plants occupying "vacant" spaces in city neighborhoods.

Other than the early (1902) attempt to adjust the height requirement and bureaucratic changes that reflected the changing administration of the city itself, the only other attempt to significantly change the weed removal law was made in 1949. Senator James Howard McGrath of Rhode Island introduced a bill to streamline and make enforcing the 1899 act more efficient; according to the Senate Report, under the law, "control of weeds," was "both cumbersome and ineffectual" (United States Senate 1949b, 2). The new language declared weeds over four inches "to be a nuisance injurious to health," and eliminated the need for providing notice to absentee landowners in local papers, instead authorizing the District of Columbia Board of Commissioners to destroy weeds if landowners or agents did not do their "duty" to control them (United States Senate 1949a, 7). While the original act calls for "removal" of the weeds, the proposed amendment indicated that destruction of the weeds might occur "by cutting, by applying chemicals, or by other means" (United States Senate 1949a, 8). The Board of Commissioners President explained that the plan under the new bill was to use 2, 4-dichlorophenoxyacetic acid (2, 4-D), reducing the cost and amount of time required to cut them manually (United States Senate 1949b). This anticipated move toward chemical use was emblematic of the time, and was not problematized by the lawmakers debating the bill. While the new language was not adopted into the act itself, chemical use has become common for weed removal and maintenance of "clean," uniform lawns in cities and suburbs throughout the United States, with negative health implications for people, animals, and ecosystems at large (Robbins and Sharp 2006; Misrach and Orff 2014).

Despite arguments decades earlier that weeds had no adverse effects on human health, during the Senate Hearing on the bill, Senator McGrath stated that "the health authorities feel that weeds are accountable for the spread of certain illnesses, such as hay fever" (United States Senate 1949c, 6609). This rationale for weed eradication, while not new, seemed to convince the senators responsible for passing the bill. Senator Aiken asked for clarification about the type of plants considered "weeds" under

the bill, and whether it was intended to suggest that if one's garden weeds grew over a height of four inches, the "District authorities will weed it for him" (United States Senate 1949c, 6609). Senator McGrath clarified that weeds were "noxious plants which are determined to be likely to spread hay fever and other human ailments," however this distinction is not present in either the original law or the proposed amendment (United States Senate 1949c, 6609). The senators determined that the bill does not apply to "ordinary" weeds, but plants such as ragweed and poison ivy, "of such a nature as might spread human inconvenience or diseases which would be injurious to health" (United States Senate 1949c, 6609) The bill passed the Senate, but did not pass the House, and since that time, the only other alteration to the weed removal law was an amendment as part of the "Nuisance Elimination Act of 1976." This amendment increased the cost of the penalty for not removing weeds and doubled the percentage of interest on the tax against property violating leaving the Weed Removal Act, which otherwise remains to this day as it was originally passed in March of 1899 (Council of the District of Columbia 1977).

Deregulating Weeds

Despite attempts to modify the weed removal law, it has endured nearly unchanged for well over a century. Today, the Weed Removal Act is embedded in the "Environmental and Animal Control and Protection" section of the Code of the District of Columbia, along with several other items pertaining to "Weeds and Plant Diseases" (Council of the District of Columbia 2017). Notification of weediness now falls under the purview of the Director of the Department of Human Services. The District of Columbia is far from the only jurisdiction with a weed removal law in effect; many exist throughout the United States, requiring varying heights and other stipulations (Rappaport 1993). As a body of legislation, legal scholar Sarah Schindler holds that these ordinances "effectively require lawns," which, while deeply ingrained in the American psyche as attractive and desirable, is problematic from a sustainability and resilience perspective (Schindler 2013, 402). Schindler provocatively suggests that in order to address this issue, cities might identify lawns and the plants that typically comprise them as a nuisance in and of themselves: "to facilitate this legal construction, a municipality could identify a 'lawn' as a nuisance per se, for example by defining 'weeds' or 'noxious vegetation' in a nuisance vegetation ordinance to include lawns" (Schindler 2013, 439). While likely an uphill battle, banning lawns rather than weeds would present a very different set of circumstances and produce significantly different prospects for urban nature configurations than presently exist in United States cities, ones that would challenge and re-frame ideas of "nature" that neatly conform to contemporary expectations of "wildness" or order.

The expectations of order, beauty and perfection established by the McMillan Plan and reinforced by popular discourse surrounding the Weed Removal Act represent a set of values held by Washington society at the turn of the twentieth century. These values, both a product of their time and a precursor of things to come, still exist in large measure in planning and regulatory practice in the twenty-first century. When every space in a city is expected to be "productive," this extends to very particular expectations for the types of plants and vegetation expected and permitted. There is a tendency to view and plan for places that match a singularly human vision of aesthetics and experience, but negating the nonhuman has its costs:

In cities, human values – driven mainly by socio-economic considerations – typically trump biological factors such that people encourage the presence of organisms that make the environment a more attractive, livable, or profitable place to be, and vilify as weeds and pests those that flourish in contradistinction to these goals. (Del Tredici 2010a, 299)

Plants we call weeds not only appear in intricately connected ways with human activities in cities, they are also, as discussed above, uniquely suited to urban environments.

Using heterotopic urban plants and the milieu in which they occur as an organizing framework could be productive for imagining how to re-use and re-interpret available sites. Anna Jorgensen and Marian Tylecote uncover many and varied meanings associated with wild and spontaneous vegetation as it occurs in cities, sometimes on sites with contamination or perceived contamination. Rather than concluding that associations with danger and mystery are wholly negative, they suggest that understanding and living with the embedded history of a site is a potentially productive practice:

Instead of conceptualizing derelict urban sites as *terra nullius*, containing nothing of value, and clearing them in readiness for future development, their intricate topography of human structures and artifacts, natural growth and decay, could be treated as the basis for future site planning and design. (Jorgensen and Tylecote 2007, 459)

Jorgensen and Tylecote do not argue for strict preservation of sites as they exist at any given moment in time, rather that instead of imposing an externally conceived vision with no reference to site, that existing landscape frameworks and dynamic processes, including natural succession, could become an important organizing principle.

Often, rather than adopting existing vegetation as organizing principle or framework, planners, designers, and developers see weeds as waste products to be cleared. This orientation negates the possibility of aligning these plants with visions of "urban nature" and perpetuates the idea that vegetation we call "nature" must be planted, tended, and managed in cities. But in some ways, weeds are the most human natures there are, in relational symbiosis with human activity or lack thereof in cities. As humans create and abandon different parts of cities, weeds respond in kind, feeding off of and thriving on material and space that we label "vacant" or "wasted." If one's conception of "nature" is not relational, and includes plants and animals that thrive apart from humans, to see urban weeds as "not nature" is actually quite accurate, for they thrive in relationship with what humans leave behind. On the contrary, one can imagine that were humans to leave any city and not return, over a short period of time weeds would completely take over what was formerly human. In this way, the only thing keeping most cities (other than desert cities, perhaps) from being completely vegetated are efforts that humans make at creating and maintaining order with buildings, asphalt, concrete, and turfgrass, among other things, and continually uprooting and killing plants with chemicals where they appear "out of place."

Efforts like the McMillan Plan and the Weed Removal Act to create and maintain built and planted urban places that reflect only conscious, deliberate human intention, miss an opportunity to work collaboratively with what *is* and what emerges over time. Planning scholar Robert Beauregard underscores the importance of materially-engaged planning theory and practice: "humans live in a profoundly material world – any action they take has to account for their relationships with non-human things" (Beauregard 2015, 3). The project of deregulating weeds is one of reimagining ways in which we might invite the nonhuman more deliberately to share and co-create the spaces and places we inhabit,

embracing relational and collaborative approaches to "nature" as co-produced by humans. This does not necessarily equate to complete disorder and cities completely overrun by vegetation with no built form, but rather an increased sensitivity about the intrinsic properties of plants, how these interact with existing and future urban structures and infrastructures, and re-defining, re-evaluating and re-visioning how truly "urban" natures might look and act. This work aligns with contemporary resilience theories, imagining cities and regions less statically "human" and more complex and entangled with "nature."

What can we learn from the Weed Removal Act and the discourse that preceded and followed it? Discourses of aesthetics, health, and crime around the 1899 Weed Removal Act posit the plants as "classic" nuisance: material generated as a result of human activity, but which people do not want around them, however the ways in which the weeds were conceived was overly simplistic both in material and theoretical terms. The people and lawmakers of the city saw weedy plants in isolation, as something separate from themselves and their actions, and something that could be easily removed in service of the health and aesthetic well being of the human population of the growing city. These constructions of weeds as essentially every and any unliked plant over four inches in height and as plants totally separate from human action and influence reveal a strong foundation in dualistic "nature" vs. "human" thinking. The Weed Removal Act is one example of a planning-related regulation with a singularly "human" vision of and for the city, one that does not accurately reflect the relational qualities between humans, plants, animals, and other material in composing urban life (Hinchliffe and Whatmore 2006). One important lesson from the Weed Removal Act in turn of the twentieth-century Washington is that while these cases are surely dated, contemporary regulations and plans are written and enacted very similarly: plans, regulations, and discourse surrounding them still adopt dualistic views of "nature" and "humans" or "nature" and "cities," which creates places and supports ideas that in many cases prioritize human views and human needs far and above and separate from nonhuman ones. Planning scholar Robert Beauregard expresses discontent with what he sees as this contemporary disconnect between human desires and actions and the material things that are subsumed within them:

I am bothered that a profession whose goal is to make life better for people by addressing the relation between their needs and desires and the built and natural environments then marginalizes the material world both theoretically and practically. In the world of planning, people act, and the rest of the world— nature, nonhuman and nonliving things— awaits human command. As a result, planning practice becomes a matter of having humans do the correct analysis and form the appropriate alliances. Landscapes, buildings, animals, and plants are simply there to be manipulated (Beauregard 2015, 225).

A city planning and regulatory practice that would do more than simply manipulate nonhuman material for human ends would break with the tradition of plans such as the McMillan Plan and laws such as the 1899 Weed Removal Act. The protracted and unsuccessful process of attempting to rid the city of Washington of weeds in the early twentieth century both reminds us of similar activities that occur today in planning and lawmaking, but also provides a cautionary tale about the ways in which discourse and material practice do not always work together to support sensitive and mutually beneficial relationships between humans and nonhumans in cities.

Some cities in the contemporary United States are being forced to re-define relationships with weedy plants due to their sheer abundance in the wake of human population loss. It is perhaps here where the most interesting re-configurations and re-definitions of what a city might be emerge from discussion of weeds and abandonment, but plants abound in cities of all development types, and these cases suggest that the issue of urban weeds is not a new one, and perhaps today there is opportunity to move beyond weeds as "nuisance" and to imagine interrelated ways in which we might learn from and co-exist with plants that are not explicitly planted by humans and do not conform to our idea of a city as a garden.



Figure 4.7. Unimproved area in the 1000 block of 2nd Street SE (Historical Society of Washington)



Figure 4.8. Unimproved area in the 1100 block of 2nd Street SE (Historical Society of Washington)



Figure 4.9. View over Reservation 337B, at the intersection of Minnesota Avenue, 34th and D Streets SE

Chapter 5 Environmental Discourses of Animal Protection and Destruction in Washington, D.C.

Animality has escaped domestication by human symbols and values; and it is animality that reveals the dark rage, the sterile madness that lie in men's hearts. (Foucault 1965, 21)

Throughout the twentieth century, planning discourse and action in Washington D.C. followed a very similar path to national planning trends, but also had some particular planning moments that made and continue to make the city unique. The first of these is the 1910 Height of Buildings Act, which restricted the height of buildings in different ways throughout the city, which with only minor amendments in intervening years has contributed significantly to the ways in which the city has grown and developed. Height restrictions have arguably made the city more "horizontal" than other cities of similar size and population, with implications for where and how vegetation and animals fit into limited unbuilt space. The District of Columbia enacted its first zoning ordinance in 1920, on par with many other cities in the United States at the time, which played an important role in establishing planning as a powerful force within the city (Gutheim and Lee 2006, 160). In the mid-to-late 1920s, the Federal Government adopted a series of acts to enable comprehensive planning by the newly formed National Capital Park Commission, and ultimately endorsed the McMillan Plan as foundational for the city's future planning efforts (Gutheim and Lee 2006, 168). This established the McMillan plan's place in early twentieth-century planning efforts, ensuring that the ideas and principles developed in the report would create a legacy for planning throughout the decades to come. In 1945, along with countless other governments across the country at the time, the District of Columbia Redevelopment Act was passed which facilitated massive urban renewal clearing operations that destroyed the homes of and relocated over 20,000 people who were living in the Southwest quadrant of the city (National Capital Planning Commission 2019). While closely related to massive changes in transportation planning at the time greatly increasing the role of the automobile within and around the city, the Redevelopment Act and subsequent urban renewal can also be directly linked to the lineage of City Beautiful planning ideals as espoused in the McMillan Plan. A final significant change that occurred in the intervening years between

the McMillan Plan and Weed Removal Act at the turn of the twentieth century and the legislation and planning activities discussed below in the early twenty-first century was adoption of the federal Home Rule Act of 1973, which transferred planning power from the federal government to the elected mayor of the city (National Capital Planning Commission 2019). While planning activities in the District are still intricately intertwined with federal regulations and actors, the system of government and planning that exists today is significantly more independent, no longer subject to federal review of every local matter as was true during the time of the Weed Removal Act and the McMillan Plan.

In 2010, the Council of the District of Columbia passed the Wildlife Protection Act, a unique piece of legislation in the context of United States cities, as urban wildlife management is a nascent field in general (McCance et al. 2017). The chapter below is a textual and visual analysis of planning documents and regulations for wildlife in Washington, D.C. with particular emphasis on the 2010 Wildlife Protection Act and 2015 Wildlife Protection Plan to understand discourses constructed in response to all types of urban animals, including those considered and not considered "wildlife." The particular mix of the municipal-level Wildlife Protection Act along with being the only city to have a State Wildlife Action Plan for an urban context makes Washington an extremely unique and interesting case with comparatively a great deal of recent discourse and planning and regulatory activity related to urban animals. In addition to the District of Columbia's unique qualities and mix of urban habitat, these relatively recent planning and regulatory activities position it as a case with important implications both locally and nationally, as well as globally. Analysis for the chapter covers the text, images, and maps within plans and regulatory documents as well as documentation available from the planning and lawmaking process including notes from community meetings, video recordings of city council hearings, and newspaper articles. This chapter questions particular meanings of "wildlife" under discussion in the District of Columbia in the 2000s and 2010s, and how vocabularies of wildness influence the types of animals humans choose either to protect or to eliminate from urban landscapes by means of regulation, planning, and expenditure of funds.

Urban Wildlife

The word "wildlife" has almost the opposite connotation than the word "weed": when people think of "wildlife," often it is a euphemism for "animals humans like." In contrast, animals that are not favored are called "nuisances," "pests," "vermin," and similar names. Not unlike the ways the word "nature" is often used to describe a desirable experience of the non-human other, "wildlife" often connotes animals that humans seek to protect, idealize, and revere. Most conceptions of wildlife include animals that exist in "wild" settings: on African safaris, in the Arctic or the Outback, and in America's national parks. The idea of "urban wildlife" is comparatively less common, and for many may even appear oxymoronic. Cities are often conceived of as places where humans are the dominant animal, the only animal with unalienable "right" to the city, a place quite literally built for human habitation. However, the omnipresence of many animal species throughout cities as well as a growing movement to recognize non-human agency and "rights" to live with and among the urban are challenging previous notions of simple and concrete boundaries within which animals are not understood as present or welcome.

These frameworks and policy positions are complex and fraught with ethical challenges, however: when all animals have rights, whose rights take precedence? In what situations? These are not easy questions with easy answers, and defining which animals have the "right" to exist within and among human settlements in cities is a fluid project that varies from place to place. One example is in cities in India, where animals like elephants and large cats live in extremely close proximity, and according to Dipesh Chakrabarty, although the project of city-building and expansion has quite literally removed habitat for these animals, when the animals roam into the city streets and endanger human lives, they are immediately tranquilized and most often killed (Chakrabarty 2015). The process of defining what a "city" is is partly the process of defining what types of animals have the right to inhabit it, and creating conditions to co-exist within and beyond urban boundaries.

Many animals live within and pass through cities, some of which might be considered wildlife, others not. Some of the most visible animals in cities are birds, with pigeons being perhaps the most

ubiquitous both in sheer numbers and in human awareness and association with American cities. However multitudes of quite tiny animals, such as ants and even smaller insects and other creatures, are everpresent in and among city soils and people's homes as well. Often, these animals are invisible to us until they pose a problem or appear in places they are unwanted, like in a trail across our kitchen counter. But researchers have also uncovered evidence to support the relational nature of these animals' lives with human ones (Penick, Savage, and Dunn 2015). Whether acknowledged or not, animals that occupy city spaces with us are intimately related to our own activities and actions, and every choice we make in planning and constructing cities is a choice that affects the presence, volume, variety, and distribution of urban animals (see Figure 5.1). This includes choices like where and what to build, what types of building materials to use, which lands in the city to "protect" or prevent from being developed in certain ways or at all, and much more. For those animals lucky enough to be considered "wildlife," at least in the case of a city like Washington, D.C., deliberate actions are taken to document, prioritize, and deploy funding for their protection.

The chapter below briefly discusses methodology used to discover and analyze resources, then details and analyzes the discourse precipitating and surrounding the 2010 DC Wildlife Protection Act and the 2015 Wildlife Action Plan. In particular, the chapter focuses on types of animals considered "wildlife" in Washington, D.C. in the early twenty-first century, and implications of these designations for language and practice. Key resources for this work include the language of the 2010 DC Wildlife Protection Act and corresponding documents, newspaper articles, and videos of hearings, along with the 2015 Wildlife Action Plan, including a very extensive section of public comments, as well as enabling legislation, newspaper articles and other related documents. For analysis, I used NVivo Pro for Windows to code and annotate each document under study to develop key themes, which appear below in narrative format.

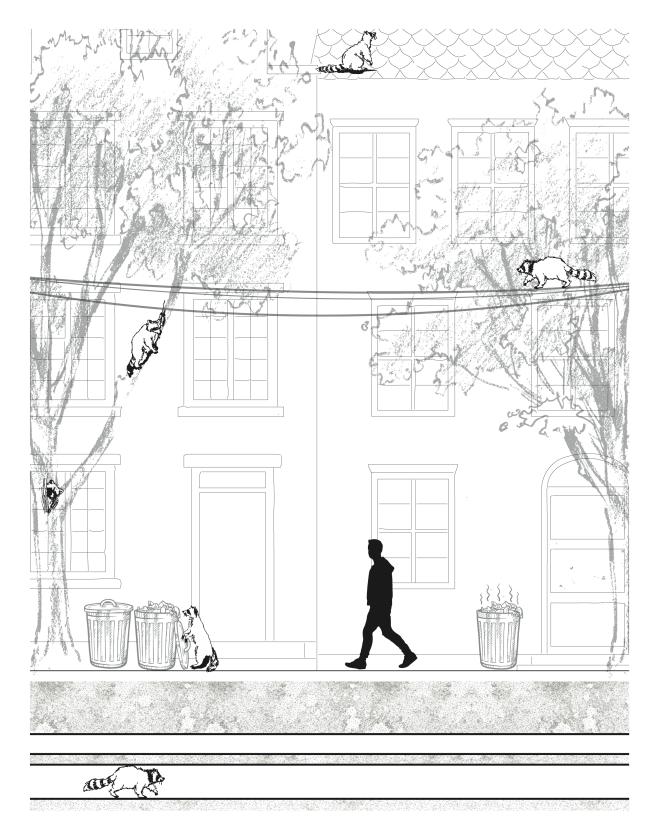


Figure 5.1. Animals adapt easily to and survive in relationship with human-created conditions in cities such as food availability, places that are warm, and places to find refuge. (Diagram created with Sarah Pate and Maddie Hoagland-Hanson)

Methods

Key resources for this chapter were discovered at the Kiplinger Research Library of the Washington Historical Society, via phone calls and electronic communication with people involved with the Wildlife Protection Act and Wildlife Action Plan, and digital information available on District of Columbia Government websites. I also corresponded with archivists at George Washington University Library, where they have a collection of District of Columbia City Council Papers, but determined that their collections only include information from Councilmembers who are no longer in office, which did not fit the needs of my project. The materials accessed at the Kiplinger Research Library were primarily for historical context. I accessed the District of Columbia Public Library vertical files on the following subjects: "Rats", "Animal Rescue League", "Animals", "Nature", and "Ecology." Each vertical file contains hundreds of newspaper clippings and other material relevant to the topic, sorted chronologically in a series of boxes. I reviewed all items in each collection, and gained evidence to further understand the historical context of the early twenty-first century regulations and plans analyzed below.

The primary materials for this chapter were the 2010 Wildlife Protection Act and the 2015 Wildlife Action Plan. I analyzed each of these documents using both the "annotations" and coding features in NVivo Pro for Windows, working through each page line by line for references to "nature," particular animals, and other relevant information. After completing a round of open coding for each document, I conducted two additional rounds of more focused coding using the themes discovered in the initial round. I inquired with the DC Office of Public Records to see whether additional unpublished materials exist related to the 2010 DC Wildlife Protection Act, but the archivist I was in touch with informed me that they have not received any records from the Council Period in question, as it is too recent. This archivist suggested I reach out to the Director of Legislative Services for the District of Columbia Council, and when I reached her by phone, she indicated that they did not have any records to share, and that I might reach out to Councilmember Mary Cheh's office, who sponsored the bill. I corresponded with Councilmember Cheh's Chief of Staff, and was similarly unable to discover additional resources. A more fruitful pursuit was through the Government of the District of Columbia Office of Cable Television, Film, Music & Entertainment: the council hearings for the Wildlife Protection Act were not available online, so an Audio Visual Specialist worked with me to provide direct access to digital recordings of the hearings. I watched the hearings all the way through once, then reviewed a second and third time to code and transcribe evidence relevant to the themes and aims of the chapter. The codes, annotations, and quotations generated from print materials, regulations, plans, and video footage were analyzed in relevant thematic categories and appear below in narrative format.

The 2010 DC Wildlife Protection Act

On October 20, 2009, inspired by reports of inhumane practices by wildlife control operators, District of Columbia Councilmember Mary Cheh introduced a bill to protect wildlife in the city.⁹ This came at a moment in United States history when environmental discourse was also wrapped up with concerns and fears about climate change, natural disasters, and political divisiveness running through all of these issues. While interconnectedness between human action and global climate issues and natural disasters such as Hurricane Katrina was not universally understood, the situation at the end of the first decade of the twenty-first century was not "business-as-usual," but a time when nonhuman life was increasingly part of the discussion in cities, despite continued theoretical and practical approaches prioritizing human needs. This was also a time in which environmental discourse embraced the idea of sustainability and recognizing the need to think beyond human consumption and the growth of economic and material wealth to interconnections between environment, economy, and social concerns. These issues play out on the ground in hotly debated and very public ways in a city like Washington, D.C., where nearly every major organization in the country has a headquarters or satellite office, including in this instance both the National Pest Management Association and the Humane Society of the United States. People in Washington not only care deeply about political issues, they are accustomed to acting on

⁹ The Wildlife Protection Act was co-sponsored by Council Chair Gray, Councilmember Brown, Councilmember Bowser, Councilmember Graham, and Councilmember Thomas.

them, and this creates contentious and colorful debates over many issues, in this case the rights and lives of animals.

Intended to regulate interactions with and minimize stress and harm to wildlife, the Wildlife Protection Act was not uncomplicated or universally embraced, and revealed deep-seated arguments and values for and against the rights and lives of animals as part of the capital city. The Wildlife Protection Act defines wildlife as: "any free-roaming wild animal," not inclusive of domestic animals, commensal rodents, invertebrates and fish, a definition that would come into question and often be overlooked by those opposing the legislation (Government of the District of Columbia 2010). Cheh, in her introductory remarks at the hearing on the bill, describes it as addressing "nuisance" wildlife control activities, which she defines as anytime a "wild" animal becomes a bother to humans. She shares an anecdotal description of the conditions that led to the need for the bill:

District residents often turn to wildlife control operators or trappers to assist in the capture and removal of unwanted wildlife from their homes and neighborhoods. In some cases, a racoon might have made its way into an attic, in other cases a fox might be routinely entering a residential neighborhood and threatening small children or other domestic animals who may be in that neighborhood (Council of the District of Columbia 2009).

Cheh called upon her fellow councilmembers to support the bill, not the least of which because it would bring District operations to parity with wildlife control activities in neighboring jurisdictions in Virginia and Maryland. Cheh described the impetus for the bill as providing "needed protections for residents and animals alike," indicating that unregulated animal control operations pose a threat to both the animals and the humans who hire pest management companies. The Committee Report echoes that the term "protection" in the title of the Act is not for animals alone: "the Wildlife Protection Act will ensure basic protections for District animals, residents, and businesses" (Council of the District of Columbia Committee on Government Operations and the Environment 2010, 2). Poetically, the Committee report envisions that the legislation "will establish clear procedures for wildlife control activities, bringing into the sunlight the practices meant to ensure that humans and animals can live in harmony" (Council of the District of Columbia Committee on Government Operations and the Environment 2010, 5). This rosy vision was complicated quite a bit by friction between opposing visions for the status of animals in the city, which is not uncommon in urban wildlife management practice:

In urban areas, overabundant wildlife are often seen as a nuisance, pest, or threat to human health and safety. It is acceptable to many homeowners to kill and dispose of animals causing damage to their property (e.g., squirrels or raccoons in an attic) or creating health and safety concerns (e.g., wildlife carrying zoonotic diseases in their yard, or attacking their pets), but many others in their community may oppose such actions. Public attitudes toward wildlife vary widely by species and context, complicating management actions (McCance et al. 2017, 8).

The widely opposing views different human residents of the city hold regarding interactions with and towards urban animals situate the Wildlife Protection Act and associated discourse as right at the heart of a philosophical and moral conundrum not easily solved. Just as with many issues where lives are at stake, fear and the desire to control behavior and outcomes often guide interactions and discussion.

That wildlife control operators do a brisk enough business in the city to warrant regulation speaks to the ubiquity of animals in the city, not unlike the early twentieth century health officer's reports as a testament to how widespread and tough to "control" weeds and plants are (see Chapter 4). At heart, both the Wildlife Protection Act and the Weed Removal Act over a century before are tied to efforts to maintain and promote order, control and human dominance in the District of Columbia, though animals in the Wildlife Protection Act are subject to quite a bit more care and concern than the plants in the Weed Removal Act. While the Wildlife Protection Act assumes that some animals must and will be killed if and when they pose a threat to humans, the emphasis is on exhausting other options before resorting to killing. The same is not true of plants: the baseline assumption is that killing and eliminating weedy plants from the urban fabric is what is best and will remove the (perceived) threats to humans.

Councilmember Cheh indicates that the bill will promote "civilized methods" of handling and managing wildlife in the District of Columbia. Of course, by its inverse, we are led to believe that the practices prior to the introduction of the bill were "uncivilized," and that is what several people attest to during the public hearing. Scott Giacoppo from the Washington Humane Society describes "cruel and indiscriminate" practices towards urban animals, and alludes to "case files dating back to 1988" detailing investigations of the Humane Society into trapping activities in the District of Columbia (Council of the

District of Columbia 2009). He holds and references a manila folder containing these case files throughout his testimony, reminding the councilmember and anyone else watching and listening of the presence and volume of cases, making both the sheaf of papers and the animals who are not present in the hearing room active agents in the discussion by giving them a physical presence and alluding to the very thing-ness of them (Beauregard 2015, 21). He also presents a framed photograph of a squirrel caught in a trap, placing it in front of him while he describes the inhumane practices that led to its capture and prolonged pain until Humane Society representatives arrived to euthanize it. Finally, he holds up a fearsome looking metal trap (Figure 5.2) that he explains is not adjustable or padded and he describes it as "cruel and indiscriminate" (Council of the District of Columbia 2009). These things Giacoppo brings to the hearing, even more than the words he says, have the power to give life and presence to the experience unwanted animals endure in the city, elevating and humanizing non-human experiences. Giacoppo's items, in particular the gruesome trap, are a deliberate political act on his part to advocate for the rights and lives of animals, but also to admonish the humans responsible for perpetuating the violence he describes against the animals in support of the bill. Giacoppo's props bring the animals' experience to the forefront, setting them apart as more than either a resource or a nuisance, but as individuals with lives worth considering.

John Hadidian, also with the Washington Humane Society, describes how urban wildlife control is relatively unregulated, and that due to the massive volume of cases that come to the Humane Society, regulation is needed. While the majority of the hearing and the act itself discuss ways humans can and should control and manage animals once they have become a "nuisance," Giacoppo and Hadidian also allude to the interrelatedness between human behavior and actions and animals appearing in human "environments." Giacoppo in particular states during the question and answer period of his testimony: "our own habits are what draws the animals to us" (Council of the District of Columbia 2009). This admission points to policy and practice implications beyond just managing the end results of "conflict"



Figure 5.2. Scott Giacoppo of the Washington Humane Society holding up a metal trap

between animals and humans, but addressing the roots of the ways in which humans construct and inhabit space and how to encourage people to do these things in ways that accept that other animals will be living nearby. For example, if one does not want a racoon in one's chimney, a way to avoid this happening is to inspect and secure the chimney, not wait until the racoon moves in and then kill the racoon. John Hadidian describes a common scenario in which the Humane Society receives a call about a "problem" with animals getting into trash, which requires, in his estimation "better advice about trash security and management, not trapping and removal of raccoons" (Council of the District of Columbia Committee on Government Operations and the Environment 2010, G1). The expectation that animals should not get into people's trash in city driveways and alleys aligns with an expectation that the city is "for" humans and not animals (Beauregard 2015). This expectation might be considerably less tenable in less "developed" cities like those in Alaska: people in Anchorage probably secure and "animal-proof" their homes and workplaces – there is an understanding that animals will be part of urban life there. But in other cities, Washington D.C. among them, there is less of a sense of animals as ever-present parts of the

environment, and more of an expectation of "urban" that does not include animal life beyond "companion" animals and zoos and "cute" animals that frolic in woodland urban parks.

The Wildlife Protection Act itself is predicated on notions of control: controlling and protecting animals that live in the District of Columbia and how humans interact with these animals. The Statement of Purpose defines the Act's underlying intent as to license, restrict, control, require records, and create standards for urban wildlife (Council of the District of Columbia Committee on Government Operations and the Environment 2010, 2). These are decidedly human ambitions, to control the types and quantities of certain animals and protect the experiences and lives of others. Indeed, according to John Hadidian, present wildlife control activities are directly descended from people who "recreationally or commercially trapped wild animals for fur, and who brought the skills and ethos of that activity to a growing urban market" (Council of the District of Columbia Committee on Government Operations and the Environment 2010, G1). This lineage of an ethos of animals as resource for humans is tied directly to colonial America and European settlers who applied their own specific vision of the ways in which animals should serve as material for humans and as bounty for conquest. This orientation was not shared or practiced, for example, by the indigenous people of the region, who certainly killed and consumed or used animal parts, but with a very different ethos. The Wildlife Protection Act represents a shift from urban animals as purely resource for human interests to animals as non-human lives with individual and unique value, not over and above humans but in relationship and connection with them.

The Wildlife Protection Act defines "Wildlife control" to include the verbs "harass, repel, evict, exclude, possess, transport, liberate, reunite, rehome, take, euthanize, or kill" – the range of methods by which humans might act upon animals they encounter in the city. These verbs are loosely categorized in "positive" "neutral" and "negative" categories in **Table 5.1**. All of the verbs are actions that people do to animals, though a big part of the act is controlling these actions, that is, controlling which of these actions humans can or cannot take towards nonhumans, and in what ways. The act states a preference for "nonlethal means" when possible as well as setting traps in ways to "avoid capture of and harm to non-target animals" (Government of the District of Columbia 2010, 2). In this way, the animals under the

Positive	Neutral	Negative
Liberate	Transport	Harass
Reunite	Take	Repel
Rehome		Evict
		Exclude
		Possess
		Euthanize
		Kill

Table 5.1. Wildlife Protection Act Types of "Wildlife Control"

"protection" of the Act are established as worthy of value and particular care, but still within the context and framework that humans establish. As discussed in the hearing, the Act was created in response to observations of "inhumane" and cruel practices towards animals in the city, but the new control measures still operate within the bounds of a humanistic framework common in planning that prioritizes the importance of humans over nonhumans, a framework that Robert Beauregard describes as a uniquely human capacity:

Implicit to this humanism is the belief that planners can control the world out-there. Justified by superior insights into nature conferred by science, mobilized by technologies like air quality monitoring, and supported by the powers and resources of governments and corporations, planners are able to undertake purposive interventions meant to produce specific and predetermined consequences: a growth boundary, housing tax credits, calm streets, scenic views. Only humans are able to plan before they act and then act in ways that impose their intentions on animals, plants, sand dunes, and stormwater. The reverse is not true; animals, plants, sand dunes, and stormwater do not have collective concerns that include humans. They encounter humans and react to them, but they do not set out to control and change the human world. By contrast, humans incessantly - sometimes inadvertently and often unsuccessfully - work to bring the natural world into conformity with their aspirations (Beauregard 2015, 25–26).

The Act establishes a sort of hierarchy of life forms in which human health and safety is considered most important, but in instances where "non-target wildlife" inadvertently becomes captured, "unreasonable risk" to the health and safety of domestic animals at is also prioritized over "non-target wildlife" which may be relocated or euthanized (Government of the District of Columbia 2010, 2). Thus, anything human

or directly human-related takes precedence over "wild" animals. However, the Act does indicate a preference for "reasonable effort to preserve family units using humane eviction or displacement and reunion strategies," and also details methods by which captured wildlife should be kept comfortable (by such means as covering the trap and ensuring airflow) (Government of the District of Columbia 2010, 3). The Act also prohibits certain types of traps known to cause harm, such as sticky traps, glue traps, leghold and other body-gripping traps, snares, or harpoon-type traps, and indicates a preference for euthanasia methods that are "the quickest, least stressful, and least painful to the animal" (Government of the District of Columbia 2010, 3). All of these measures, while intended to minimize harm, essentially perpetuate human control and enable humans to trap and kill animals that may be interfering with their lives in the city. The Wildlife Protection Act, even in the name itself, retains a dynamic between humans and animals that establishes humans as powerful and in control – "protectors" in the words of Beauregard above bringing animals "into conformity with their aspirations"; the act does not adopt a co-existence or relational approach, but rather works within existing power structures to improve present actions but not to fundamentally change them.

All of these measures are also accompanied by a general goal for the Act to make wildlife control operations more transparent in the city, to "protect humans" as much as the animals. John Hadidian of the Humane Society of the United States testified that the legislation

... is as much about consumer protection as it is about protecting wild animals. It ensures that the citizens of the District of Columbia are well served by the wildlife control businesses that operate here as much as it addresses the need for wild animals to be humanely controlled" (Council of the District of Columbia 2009).

This complicates simple notions of a one-way action of humans towards non-humans, adding a bit of depth and intricacy to the relations between various parties. The act intends to regulate both human action towards animals, in the form of the methods by which wildlife control operators may interact with animals they are hired to deal with, but also to make these methods more transparent to District residents who might contract such services, ensuring that "inhumane" practices are not unknowingly executed on behalf of people unawares. According to the Committee Report, "despite the potentially invasive and

reoccurring nuisance that animals can present, residents are not informed on the steps needed to permanently remedy a situation [and] many residents are unaware of the violent deaths that many captured animals face" (Council of the District of Columbia Committee on Government Operations and the Environment 2010, 3). Instituting regulations to guide human activities towards urban animals in this case is also intended to raise awareness of "proper" procedures for handling them, as well as inform District residents that they should be able to expect that animals removed from their property by professionals will be handled and treated in "humane" ways, for example not using drowning or acetone injections to euthanize them. In addition to preventing harm to animals, John Griffin of Humane Wildlife Solutions also testified at the Committee hearing that in the absence of regulation, inhumane practices which are almost invariably less expensive and less time consuming, are incentivized, putting those seeking to employ "humane" operations at a "competitive disadvantage" (Council of the District of Columbia Committee on Government Operations and the Environment 2010, 7). He describes in his testimony how when wildlife control operators do not address the fundamental problem and resort to short-term solutions that solve the problem quickly, this often results in killing more animals and more difficulty for the human resident as well:

Numerous times I have followed behind another company or individual performing wildlife control work that either did not address the root cause, did not know enough about wildlife or did not assess the entire structure, resulting in an unsatisfied customer, young animals left to die after a lactating female had been trapped and removed, non-target animals unnecessarily trapped and/or killed, and/or an unrepaired opening still being used by an animal (Council of the District of Columbia Committee on Government Operations and the Environment 2010).

By regulating wildlife control operators and making their activities more transparent, proponents of the Wildlife Protection Act sought to decrease instances such as those described above and reduce the degree to which people and companies profit financially from human distaste and fear for animals and their ignorance of cheaply available but ethically questionable actions towards these animals.

Ideas and measures in the Act were not universally embraced. One example is the status of animal trapping practices: Humane Society spokespeople imagined a future that might eliminate all trapping because "better and more humane approaches exist," while the National Pest Management Association recommended retaining the use of various types of traps like glue traps, body-gripping traps, and harpoon-type traps because to prohibit them "interferes" with wildlife control efforts and results in "increased cost for consumers" (Council of the District of Columbia Committee on Government Operations and the Environment 2010). These opposing positions represent starkly different views of animals and their status in the city: advocates for humane treatment of animals assume that the animals have inherent value and "rights," while those who view them as "pests" see human needs and concerns as paramount, and animals as expendable. Though much more complicated than simple language differences, the turns of phrase "wildlife" vs. "pest" make a big difference in terms of how the animals are viewed, understood, and treated. Weisser and Hauck describe how some of the challenges with opposing views towards urban animals derive from a "pictorial" view of landscape as applied to cities:

The result of this pictorial understanding of nature is the idea of three spatial relations between man and other species: the first relation is wilderness, where wild creatures roam around freely and humans are acting as intruders or explorers. The second relation is the city as the civilized sphere of civilized people that are accompanied by pets and (sometimes) vermin; and the third relation is the intermediated sphere of the so-called cultural landscape or Kulturlandschaft, as successor of Arcadia, where humans and other species (preferably domesticated animals such as sheep and other peaceful creatures such as songbirds) live harmoniously together. Species that cross the borders between these spheres are often seen as intruders or as abnormal. Thus, different measures are taken to restore the right relations between man and other species – including putting up fences, eradicating animals from certain areas or relocating individuals and populations (Weisser and Hauck 2017, 3).

While "wildlife" might be seen as unwelcome in the city sphere, and therefore assumed to need to be removed, "pests," though assumed to be at least in some ways part of the image of a city, are also seen as waste products and not as animals with the same status as "wild" ones. Rationale for maintaining distinct landscape pictures as described by Weisser and Hauck among others is deeply ingrained in Western psyche and culture, but particularly in comparison to other views, is very clearly a construction that we choose to perpetuate, regardless of whether this is outwardly acknowledged.

The Wildlife Protection Act, despite explicit language excluding "commensal rodents" from protection, was often colloquially referred to as legislation providing "right to life for rats" (Bill Branch, pers. comm.). Ironically, in testimony in favor of the legislation, a representative from the National Pest Management Association indicated that the pest control industry is "professionalized, training-focused, and regulated," in opposition to the "nuisance wildlife industry" which at the time did not have licensing or minimum competency standards (Council of the District of Columbia Committee on Government Operations and the Environment 2010, 4). Following passage of the law, legislators and residents of adjacent states created a bit of a media frenzy around the falsely conceived notion that the law would allow and encourage pest control operators to trap and re-locate hundreds of rats from the District across the borders into Virginia and Maryland. Most outspoken about this perceived threat was Virginia Attorney General Ken Cuccinelli (R), who made the following comments on a local radio show:

Well, I saw the same rat story about D.C. that y'all have been talking about. What you may not know is that last year, in its finite wisdom, the D.C. City Council passed a new law, or a triumph of animal rights over human health, where those pest control people you suggested they bring in aren't allowed to kill the rats. They have to relocate the rats and not only that – that's actually not the worst part – they cannot break up the families of the rats. Now, as actual experts in pest control will tell you, if you don't move an animal at least 25 miles, it'll come back. And so what's the solution to that? Well, cross a river…anyway, it is worse than our immigration policy – you can't break up families. Or raccoons or all the rest and you can't even kill them. Unbelievable. (Austermuhle 2012a)

Multiple factual errors notwithstanding, Cuccinelli's narrative is decidedly pro-human, not leaving much if any room for animals or the value of their lives. He interprets the law which, by Cheh's admission, was intended to protect animals from cruelty and protect human consumers from being taken advantage of, as a plot on behalf of the Federal District to relocate nuisance animals to his home state, threatening the health and well-being of human residents there. Even more problematic is his indirect comparison between urban rats, which he identifies as a threat to human health, and human immigrants to the United States. While he does not state this explicitly, there is an underlying message in his comments that suggests he believes that the way we treat rats is somehow comparable to the way humans immigrating to the country are or should be treated. Following this outcry, Maryland Delegate Patrick McDonough (R) announced plans to introduce legislation to prevent rats from being relocated to adjacent counties: "I'm protecting the borders again, this time from illegal rats...I'm very concerned about my friends in Prince George's and Montgomery counties. They're on the front lines of this" (DeBonis 2012). In both cases, the elected officials draw comparisons between D.C. rats and human immigrants to the United States, inciting fear and alarm at the thought of an invasion of heterotropic animals into their political turf. More than just

inciting fear, though, these statements are deliberate political acts with intent to demonstrate to constituents that these elected officials "mean business" and are ready to spring into action against a law that would bring nuisance – an opportunity to exert and proclaim control and retain power, though thoroughly misinformed.

Radio talk show host and conservative political commentator Rush Limbaugh picked up Cuccinelli's claims on his radio show which precipitated dozens of threatening e-mails sent to Councilmember Mary Cheh (Austermuhle 2012b). Cheh released sample e-mails she received, which included statements like "It is laws like these that will end up destroying your city and causing people to die from the diseases carried by the animals the law thinks it is protecting," and "Are vermin allowed to vote in Washington, D.C., and if so, how many vermin voted for this woman? And if vermin are not yet allowed to vote in Ward 3 what inspired Ms. Cheh to choose vermin over the welfare of human beings?" Other e-mails include direct threats to Councilmember Cheh, as well as extremely explicit language, which Cheh responded to in a statement:

It's a relatively short bill – seven pages. And the very first page expressly exempts mice and rats found in the District. I would have hoped that people would have been inclined to read the bill before raging against it. Over the past few days, the bill has been the subject of some national comment, and as a result, my inbox has been filled with emails disparaging me for requiring rats to be exported rather than killed...firing off uninformed missives and calling me 'babe' must have been easier than actually reading the legislation (Council of the District of Columbia 2011).

While the comments and threats incited by Cuccinelli and Limbaugh are likely more a sign of polarized political times than of actual interest in debating the merits of the Wildlife Protection Act, the underlying discourse about the primacy of human health and welfare as well as the "rights" or lack thereof of urban animals perpetuates a perspective rooted in ontological distinction between human and nature. Although, as Councilmember Cheh points out, the commenters clearly did not read or understand the purpose of the legislation, their extreme reactions to even the idea of animal "protection" reveals an undercurrent of human primacy and dominance both in the city and at large. There is an unspoken assumption, in this case vociferously spoken, that "pest" animals such as rats deserve to die so humans can enjoy a "pest-free" environment. But given the intimate relationship between "pest" animals such as rats and human activity,

such as abundant food waste, just as the Act itself is more about controlling human actions towards animals than controlling the animals themselves, the same might be said of approaches to dealing with animals like rats. In fact, elected officials in Washington have waged "war on rats" multiple times throughout the city's history, and despite virulent language and imposing photographs of people and devices used to exterminate the rodents, plans often conclude that human actions are the most important thing to address:

D.C. previously hosted a rat summit in 1999, when then-Mayor Anthony Williams decided to declare war on the city's rodent population...the plan [that was drafted] deals as much with making sure people follow regulations that would keep rats at bay – such as not littering – as it does with rooting out the rats themselves (Phillips 2012).

This speaks to the intrinsic and complex relationality between human actions and animal lives in cities. Rats and other animals in the city do not exist in isolation, but are intimately tied to what humans choose to do, and most especially how they handle abundant waste. In the next section we turn from rats to cats, as a few years after the Wildlife Protection Act passed, city officials handled another firestorm of controversy over animals during the public comment period for the 2015 DC Wildlife Action Plan.

DC Wildlife Action Plan

Thousands of cats freely roam about the streets and neighborhoods of Washington, D.C. While not always visible, the cats' presence is keenly felt by local animals they prey on, as well as local residents who adore them and fiercely advocate for their lives. In 2015, following public review and comment on Washington's draft Wildlife Action Plan, people mobilized on both sides of the fence: in favor of eliminating outdoor cats from the city to protect native wildlife species, mostly birds, and in favor of valuing the lives of free-roaming cats making homes throughout the city. In an impassioned nearly four-hour public hearing on the plan, people on both sides of the issue made their case for and against cats, revealing deep-seated moral and ethical arguments not easily resolved, but all predicated on human-centric values.

The District of Columbia participates in the federally funded State Wildlife Grant program, run by the U.S. Fish and Wildlife Service to develop and implement programs that "benefit wildlife and their habitats" (U.S. Fish & Wildlife Service 2018). Some of the funds from this program must be used for each state or territory to create and uphold a State Wildlife Action Plan. Following on the ideals and practice of the environmental movement of the 1960s-1970s, wildlife action planning nationwide can be seen as part of a larger cultural shift towards conservation and management of animals and habitat. The District of Columbia is a unique entity in the United States: a Federal District that is not legally part of any state. As such, Washington, D.C. created its first Wildlife Action Plan in 2006, and is the only "completely urban" jurisdiction required to participate in management activities and prepare a state wildlife action plan every ten years (Government of the District of Columbia, Department of Energy and Environment 2015, v). The first plan was created in response to a legislative mandate requiring all states and the District of Columbia to create plans for protection and conservation of wildlife in exchange for and as part of funds appropriated for that purpose (Government of the District of Columbia, Department of the Environment, Fisheries and Wildlife Division 2006, 10).

In 2015, the city produced the most recent Wildlife Action Plan, which details concrete steps that must be taken to protect and support animal life in the city, among them habitat restoration, land

acquisition, wildlife inventory, and regulations (Government of the District of Columbia, Department of Energy and Environment 2015, 1). In the preface to the plan, then-District Department of Energy and Environment Director Tommy Wells discusses animals and insects as nonhuman "residents," and indicates awareness that these beings are significant beyond just direct benefits to humans: "The Department recognizes that animals, plants, and other organisms – and the natural systems that they comprise – have intrinsic value beyond providing ecosystem services, aesthetic enjoyment and recreational benefits." (Government of the District of Columbia, Department of Energy and Environment 2015, vi). Though a seemingly simple statement, this admission of intrinsic value goes beyond the vast majority of planning efforts for animals in cities, which are primarily focused on direct benefits to humans and the city as a human-driven place in which animals are "allowed" to exist. Framing animals, plants, and other organisms of human-nonhuman relations, but the plan is guided by the U.S. Fish and Wildlife Service, which mandates very specific definitions of animals worth protecting and conserving, and the District of Columbia plan surely reflects this mandate more strongly than the Director's message of intrinsic value.

In order to determine animals worthy of protection, the authors of the Wildlife Action Plan use a variety of methods to determine what they term the Species of Greatest Conservation Need (SGCN). From the outset, the animals that have a chance to be included on this list are limited by the very definition of "wildlife": for example, the plan indicates that there are 32 mammals in Washington, D.C., but this list of 32 does not include "pest" animals like common city rats. Thus the human-created categories of "wildlife" and "pest" very directly influence the fate of animals who inhabit the city with them. Issues and concerns around animals such as city rats are so pervasive and long lived that they have become "common sense," and are not called into question in a planning process for species that need conserving in the city. The U.S. Fish and Wildlife Service definition of wildlife is "any species of wild, free-ranging fauna, including fish, and also fauna in captive breeding programs the object of which is to reintroduce individuals of a depleted indigenous species into previously occupied range" (*Federal Aid in*

Wildlife Restoration Act 1937).¹⁰ When identifying "mammals" living in the city, scientists and planmakers exclude commensal and companion animals, likely not because of careful consideration of the qualities of particular animals, but because of particular formulations of the concept of "wildlife." In the same way Foucault discusses an attempt to return to "that zero point in the course of madness at which madness is an undifferentiated experience, a not yet divided experience of division itself," we might imagine that there was a time before "pest" animals came to be known as pests, before certain animals were categorized as "wildlife," and before a count of "mammals" in the city could justifiably not include every single mammal, regardless of these assigned and assumed categories (Foucault 1965, ix).

The Wildlife Action Plan itself, like other State Wildlife Grant funded plans, has two core purposes, "to prevent the extinction of rare species," and "to prevent common species from becoming rare" (Government of the District of Columbia, Department of Energy and Environment 2015, 1). This in some ways centers the efforts of any given plan not on the local situation of animals in each particular state, or city in this case, but in a more "global" context with a larger-scale imperative for species survival as a whole. Embedded in these discourses about species decline are assumptions about human control and dominance – both that human actions and activity have a severe impact on which types of animals are able to survive and thrive, and that human action such as conservation measures among other things has the ability to protect and conserve species. These arguments are a bit polarizing, though, and fall squarely into the "nature-as-thing" approach discussed in Chapter 2, pitting it as de facto separate, something that humans either act "positively" or "negatively" upon, rather than a relational web that we as human animals are intimately entangled within. Geographer Owain Jones underscores this challenge: "such entanglements, where both humans and non-humans might collectively flourish, have often been neglected in scientific and political agenda focused on either one or other side of the nature/culture divide" (Jones 2009, 298). The Wildlife Action Plan itself purports to seek "to balance the protection of the District's unique natural diversity with human and economic needs" (Government of the District of

¹⁰ From "Definitions" section of the Pittman-Robertson Wildlife Restoration Act, which enables funding for state wildlife action plans.

Columbia, Department of Energy and Environment 2015, 2). This emphasis on balance brings to mind a set of scales that firmly places humans on one side and animals on the other. What other types of goals, other than "balancing" needs of disparate parties, might approximate a more holistic, relational natureculture as envisioned by biopolotical thought leader Donna Haraway: "in layers of history, layers of biology, layers of naturecultures, complexity is the name of our game" (Haraway 2016, 94)? The Wildlife Action Plan clearly perpetuates a dualistic approach to the relationship between animals and humans, one predicated on the Federal mandate, and therefore extremely pervasive throughout the country, as every single state has a plan based on this same premise. A plan embracing complexity might offer a very different starting point, one that would take more than a narrow view of the animal life of the city, and one that would more fully account for interconnectedness and co-creation of city space and life.

In the Wildlife Action Plan's discussion of threats to wildlife and habitat, the plan authors assume a desired prior "state" that the city was in, using terms like "the land that was originally forested" (Government of the District of Columbia, Department of Energy and Environment 2015, 93). The plan authors are not clear on what they mean by "original," and often this is a key word that assumes a prior state before human influence. However, the majority of land we inhabit today has been through many iterations of entangled human nature through multiple periods of time, and does not have such a clear "before" and "after" human influence limited only to dates when European Americans settled and restructured the land. The plan authors also indicate that wildlife have "lost" habitat due to development, which implies that humans have taken something away that might yet be "found" or returned. While the factors the plan authors list, including construction, soil disruption, and stormwater runoff undeniably have adverse impacts on animals and their habitat, establishing the city as disrupting the "original" state of the land and declaring wildlife habitat "lost" are tropes of environmental discourse that pit "nature" and "humans" against one another, leaving little room for creative approaches to co-existence and coproduction. Plan authors assume that "effective management" of threats such as invasive plants and "problematic" animal species "should restore the natural tree recruitment and succession" within habitats, but these assumptions are predicated on ideas about what is "natural" that very likely do not account for

the ever-changing dynamics of urban life – what is "natural" in the city? Despite a long history of recognition of the need to wisely manage human influence on the land and natural processes, at a basic level, seeing "nature" as something separate from humans is increasingly problematic. We have come to a point in the twenty-first century where there is no place on earth "untouched" by humans, whether physically or as a result of our actions, particularly through production of greenhouse gases and other types of pollution (Marris 2011). Some lament how people are able to mentally see themselves as outside of the "problem," and always look towards something that is or could be better than the situation before us (for example, "my neighborhood stream may be polluted and eroded, but at least we still have beautiful places like Shenandoah National Park") (Cronon 1995b; McKibben 2006). There is no separation between "human" and "nature," and perhaps there never was in the first place. This is not to say that we should just give up and forget about what we used to call "nature," but that the idea of "nature" itself is no longer useful, and it may be time to find other words and other ways of understanding our position in the world (Latour 2004; Morton 2012). Some cultures do not have a word for "nature" and instinctively see themselves much more holistically as part of the world around them – this is not to say that Western thought does now or will ever mimic these ways of thinking and ways of being, but to call attention to the degree to which our ideas of nature and natural are socially and culturally constructed, and thus a great deal more subject to challenge and interpretation than environmental discourse often allows for (Soper 1995; Demeritt 2002).

Furthermore, the plan calls for "stable habitats," envisioning efforts that might re-create and protect desired configurations of plants and animals. The plan authors state "the ultimate goal of this plan is to target habitat-based threats with actions that will recover and restore degraded critical habitats, coupled with protecting habitats that are in good condition from new threats and degradation" (Government of the District of Columbia, Department of Energy and Environment 2015, 93). These goals to "recover" and "restore" habitat that has been "degraded" by human influence fall squarely into the "nature-as-thing ontologically separate from humans" theoretical framework, imagining humans and urban development always already as a negative force that must be stemmed. Pitting humans against the

well-being of animals and plants calls into question the project of city making as a whole: if animal habitat cannot exist with and alongside human development, perhaps we should not have cities (or humans) at all? Perhaps a less extreme response would be that development needs to be "sensitive" to the needs of plants and animals as well as economic and other human factors, but given the state of things today, it seems like charting new, creative paths that account for the needs of development practices as well as the ever-changing tapestry of urban plants and animals might be another way forward. It seems a futile project to try to re-create and maintain a previous ecological state or relationship, and perhaps a more fruitful one to envision a variety of possible entangled relational futures that might improve on existing conditions and strengthen networks and connections, rather than severing ties in an effort to isolate and maintain a desired past state.

Like many other plans, the 2015 Wildlife Action Plan refers to land within the District of Columbia as either "protected" (in one case "precious natural areas") or "developed." While "protections" are understood as necessary to keep entire cities from becoming brick-and-mortar buildings, the language of "protected" and "developed" promotes dualistic thinking and a way of understanding the urban landscape and certain things that do or do not belong in certain places. In the case of the Wildlife Action Plan, this often means that protected areas are prioritized for non-human "wild" inhabitants, while developed areas are prioritized for humans, and in the eyes of the plan authors, are nearly worthless as animal habitat. The plan authors describe the city as "a fully developed urban city that also contains significant wildlife habitat in its parks and other natural areas" (Government of the District of Columbia, Department of Energy and Environment 2015, 33). The plan's "habitat formation map" includes one color for "developed areas," making the city look quite sparse in terms of habitat, though a finer grain look at "developed areas" might reveal more potential connections and opportunities (Figure 5.3). This map was generated using Geographic Information Systems (GIS) data, mapping software extremely common in contemporary planning offices to visualize a wide variety of planning-related material conditions in the city. GIS data are gathered in a number of ways, through satellite images, digitization of existing maps, and occasionally ground truthing, but every single map generated is

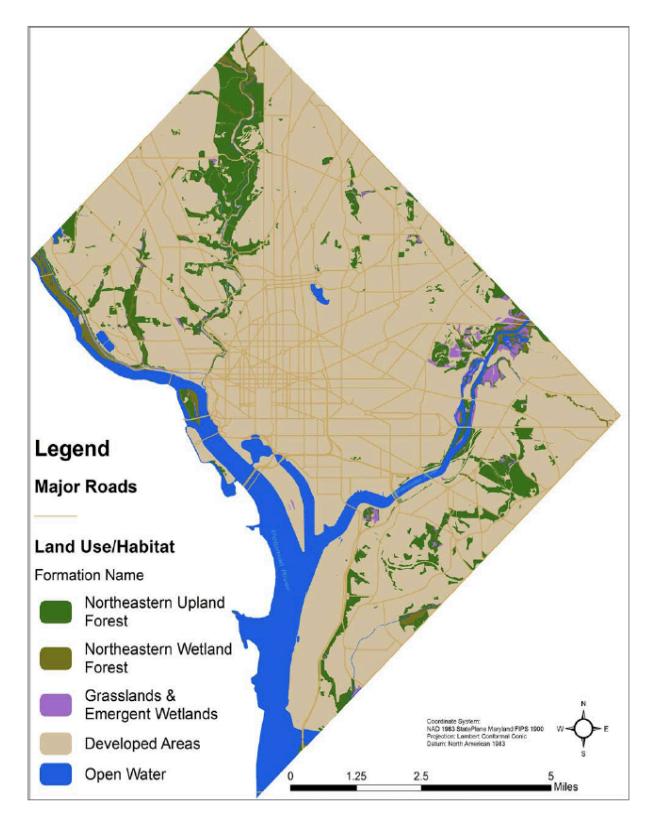


Figure 5.3. District of Columbia habitat formation map (Wildlife Action Plan, 41).

a deliberate choice among a panoply of options about what data to include and how to visualize it, and every dataset has significant limitations and only partially captures any kind of "truth" that exists in the world. Like any mapping exercise, GIS mapping itself is aligned with a certain type of knowledge and certain forms of power, which J. Brian Harley contends is "a way of presenting one's own values in the guise of scientific disinterestedness" (Harley 2009, 130). Although the construction and creation of maps is a highly selective and subjective process that results in a particular person's and institution's ideas about territory and power and knowledge, maps, particularly in urban planning practice and culture, carry political and cultural currency that make them seem "true" or "official." Mapping "developed areas" as this map does, with a single color and opposed to the few areas that scientists consider intact parts of "nature" establishes development, that is human-built and occupied space, as a kind of "default" condition. The map is in alignment with twenty-first century planning ideals that prioritize human experience in cities, and follows a common pattern in which: "Planners take the world as it is initially experienced and reimagine it in terms of categories that enable them to develop plans and regulations that frame subsequent interventions" (Beauregard 2015, 32). Though categorization can be useful, this map is one of many cases in which it collapses and "dumbs down" possible relations and connections, visually advocating for stark and pervasive dualism between human ("developed") and all other life in the city.

While subsequent maps in the chapter provide further detail in the way of breaking "developed land" into residential and commercial/industrial, and even show a detailed view of large native street trees in one neighborhood in Northwest D.C. (p. 68), these maps and the corresponding language do not offer much in the way of imagining possibilities for "developed land" as habitat. For example, American University, which has been declared an arboretum due to the abundance of trees on its campus, is listed in the Wildlife Action Plan map as a single use: "Residential – high intensity." In the case of ecological communities, not all "developed areas" are equal, and if "common" species of urban animals are able to adapt and be welcomed into developed areas, one must assume that more rare species might also have this ability or possibility as well. The plan authors state that developed areas have "little or no habitat value," only allowing that certain conditions, such as those in the detailed map view "may provide some habitat

value to birds and invertebrates" (Government of the District of Columbia, Department of Energy and Environment 2015, 67). More specifically, plan authors state that some native species, including grey squirrel and Virginia opossum, "make use of human spaces and detritus," and "some birds, rabbits, and other species use the residential areas of the District" (Government of the District of Columbia, Department of Energy and Environment 2015, 112). If the focus and emphasis on urban wildlife conservation stays squarely on limited and declining "precious" "natural" areas, this negates a lot of the true potential of envisioning urban natures of future cities and ways in which human and animal species might thrive and flourish together. This is not to paint a utopian picture of all species living in harmony, or to refute the very real threats to animal habitat posed by constant development and re-development, but more to challenge the selection and use of a single color to cover "developed areas," as though the discussion is over there, and there is no potential for further nuance and blending of both human conception of who and what exists in built areas as well as ecological possibility of what types of animals could and perhaps already do exist there, if our tools of measurement and perception were more sophisticated. Using urban-level spatial data to determine habitat and species potential seems somewhat limiting –in the interest of making connections and building on what exists on the ground, the scale of the city block or neighborhood might provide a lot more nuance to the story. If we treat the "developed areas" of the city as a hindrance to a return to some previous "natural" state that will support "urban" wildlife, what we are doing is not envisioning relational, co-created urban futures, but trying to hold on to a vision of "nature" within a "city," where never the two shall meet.

While the 2015 Wildlife Protection Act on the whole uses language that devalues the potential of developed land for animals, it does indicate potential conservation actions may include work to "accommodate wildlife and expand their access to habitats in developed areas" through such means as "creating new meadow habitat, creating artificial nesting opportunities, citizen science initiatives, and native plant propagation" (Government of the District of Columbia, Department of Energy and Environment 2015, 10). This indication of potential value in developed areas as well as admission that some nature and wildness can and must be constructed by humans contrasts with the majority of the

document, which is focused on "protection" and "conservation" of existing "natural" areas. Indeed, in responses to public comments about the potential of developed land as wildlife habitat, the plan authors indicate:

This document targets declining and rare species, which are typically uncommon in developed areas. Large groups of SGCN (such as salamanders and turtles) have been extirpated from most high-density residential and commercial industrial areas. While patches of habitat do have value for some common species, DOEE must focus this plan on the rare and declining species whose habitat can be restored (Government of the District of Columbia, Department of Energy and Environment 2015, G-9).

While understandable given the directive for the plan from the U.S. Fish and Wildlife Service to focus on Species of Greatest Conservation Need, the exclusion of consideration of "developed" land as potential habitat in cities, even for the rarest species, seems shortsighted. Thinking of the city as a place like a "wild" forest, or one that "should" have similar characteristics to somewhere "wild" does not take full advantage of the unique opportunities and challenges posed by urban conditions. In describing the process of selecting Species of Greatest Conservation Need, the plan authors note how some species are habitat specialists, with specific requirements that "can be rare in natural areas surrounded by urbanity" (Government of the District of Columbia, Department of Energy and Environment 2015, 14). The plan authors map environmental discourse onto the plan, continually distinguishing between "developed" and "protected" and between "natural" and "urban" which, while legible to environmental and lay audiences, misses an opportunity to acknowledge and build upon the intimately entangled and always-unfolding relations between all the elements comprising urban natures. What new configurations might emerge with an approach predicated on relations and connections, rather than distinctions and separation?

Some of the public comments on the plan challenge this dualistic thinking, imagining how humans already are and might continue to make "developed" areas more hospitable for a variety of urban animals. One resident suggests that the plan language about developed land "undervalues the potential of landscaping to benefit invertebrates," another that "developed urban areas, especially in residential neighborhoods, can be home to a surprising range of wildlife," but the plan authors are fairly clear in their resolution that developed areas are generally not hospitable for wildlife (Government of the District of Columbia, Department of Energy and Environment 2015, G-8). This calls into question the whole concept of what it means to be an urban animal – if there are only "protected" "natural" areas, and these are continually encroached on in growing cities like Washington, D.C., part of the project of planning for animals in the city must include a re-imagining of what we mean by habitat and how it can play out as part of human city life. Stella Tarnay, commenting on the draft plan on behalf of Biophilic DC, urges the plan authors to further nuance the "developed" vs. "protected" land dichotomy:

We believe that it is especially important for a wildlife action plan in an urban area to acknowledge that nature exists throughout the city, not just in designated greenspaces. We encourage DOEE's Fisheries and Wildlife Division to incorporate the "gray" developed zones and the District's suburban residential areas into the WAP. Especially when grouped together, these areas can provide habitat for a variety of significant species. (Government of the District of Columbia, Department of Energy and Environment 2015, G-8)

The Wildlife Action Plan also states that the city intends to "increase its overall ecological integrity by creating and expanding habitat areas and improving and enhancing whole systems at a large scale" (Government of the District of Columbia, Department of Energy and Environment 2015, 7). The plan language calls into question what "ecological integrity" means in an urban environment, in today's complex world of 'new ecology,' which Owain Jones explains as one that emphasizes "spatial, scalar, and temporal variation...complexity and uncertainty within ecosystems" over "ecosystem predictability, management and control" (Jones 2009, 297). When ecologies are constantly shifting and changing and interrelating, the idea of "integrity" seems to refer to outmoded ecological thinking, whether in the urban context or further afield.

The Wildlife Action Plan also seems to prioritize this "old" ecological thinking (though not that old at all, predicated on scientific knowledge of the mid-to-late twentieth century) about preservation of "natural" habitat against human "disturbance." For example, there are multiple references to human activities negatively impacting habitat quality, most notably through the formation and use of formal and informal trails. Several times, the Wildlife Action Plan authors describe and discuss how human creation and use of formal and informal trails disturbs quality of forest habitat through introduction of invasive plants and fragmentation, noting that these disturbances "otherwise would not occur" (Government of the District of Columbia, Department of Energy and Environment 2015, 49, 50, 52). This reference to "otherwise" calls to mind the question of who and what these spaces are for – if humans and pets were not allowed to use trails through urban forests, would they still be "urban"?

The Wildlife Action Plan states that:

Recreational activities impact wildlife habitat when the human population density is high enough that use of the area is almost constant. Recreational infrastructure impacts wildlife through the loss of habitat to new trails, fragmentation and new edges in habitat patches, and the transport of invasive plant materials" (Government of the District of Columbia, Department of Energy and Environment 2015, 142).

What are the limits of and interactions between human use of outdoor space in cities and wildlife habitat? To what degree are we willing to envision the full extent of a "natural" or "protected" area that does not allow humans or their companion animals to traverse – that essentially becomes a human-less space for the benefit of selected urban animals? This runs counter to the notion of new ecologies, in which there is no such thing as a "human-less" space, and for which we must reject "the view of nature as a separate realm into which human life simply intrudes, and inevitably corrupts, distorts, and lessens" (Jones 2009, 297). The plan authors provide an example of the Anacostia Riverwalk trail being extended to the District border, "resulting in the loss of Coastal Plain Swamp and Northeastern Floodplain Forest habitats," but without any admission of the benefits that might come to human residents of having additional opportunities to be outdoors and participate in the habitat that remains (Government of the District of Columbia, Department of Energy and Environment 2015, 106).

Pitting human recreation activities and infrastructure as a "threat" to wildlife, while sound from an environmental "protection" perspective, misses the importance of humans as city animals, and the desperate need humans have to be outdoors and exercise. That is not to say that humans should have a "right" to every square inch of a city, just because it is a city – in fact, there are several examples of creative and thoughtful designation of wildlife areas in cities in which human influence and participation is limited either physically or temporally. One of these is Natur-Park Sudgelande, in Berlin, Germany, where a slightly elevated trail was constructed in order to minimize human impact on the plant species and animal habitat, but still invite them in to enjoy (Kowarik and Langer 2005). Another is Crissy Field in

San Francisco, California, where human activities such as letting dogs off leash and flying kites are not permitted within a designated Wildlife Protection Area much of the year to protect the Western Snowy Plover during nesting season (National Park Service, n.d.). Broad-brush labeling recreation and recreational infrastructure as "purely" threat to urban animals negates the inherent potential of such activity and infrastructure to foster intimate human experiences and encounters outdoors with plants and animals, which have the power to influence future policy and planning for city natures in nuanced and creative ways (Beatley 2011).

Conversely, the National Park Service comments on the Wildlife Action Plan indicate that in certain areas of the city, historic landscape status is elevated above "sustainability" concerns such as mowing and native plant selection, prioritizing human/cultural values in favor of those espoused by the plan (p. G-24). One of the criteria the plan indicates for measuring success is "number of miles of social trails eliminated" but this begs the question: if people are making their own trails, does this represent a human need not fulfilled by designed trails, and if so, how might this need be met rather than being eliminated just to be re-created? (Government of the District of Columbia, Department of Energy and Environment 2015, 143; Certeau 2011). Rather than eliminating miles of social trails, another approach might be looking into the reasons behind those trails and how some sort of compromise or solution that both satisfies the human need and continues to provide habitat and forage for animals might be achieved. Eliminating them without discussion will probably cause them to re-appear quickly after, another example of the ways in which human activity and plant and animal life in the city are intimately intertwined.

The Wildlife Action Plan states the total number of each type of species under consideration, and animals falling outside of the definition of "wildlife" are not included. The plan's construct of "wildlife," due to the enabling legislation's emphasis on species of greatest conservation need, comprises animals that are "rare and declining" both locally, nationally, and globally. A more comprehensive plan for animals in the city might include more than just 32 species of mammal, for example, and understanding the full range and extent of animals that inhabit the city with humans would present a very different picture of the population, both animal and human, actually present and part of the city. The Wildlife

Action Plan places a strong emphasis on native animals as preferred, claiming that preservation of native species of birds, mammals, and other types of species will protect "the diversity of the District's wildlife"(Government of the District of Columbia, Department of Energy and Environment 2015, 17). In order to select which among the species was eligible for designation as one with greatest need for protection, the plan authors used a blend of scientifically established selection procedures. These ranking procedures, including the Millsap Process among others, while widely accepted and used, do seem somewhat predicated on the economic idea of supply and demand - just as with weeds, plants that may be revered in one place are thought of as waste and ugly in another, it is not necessarily true that particular animals are greater or lesser beings than others. Rather we as humans want to control their population and distribution for our own human-created reasons. This is not to say that those reasons are not based on careful thought and study or that they are not in any way worthwhile, but to call into question why those reasons, and why in this particular place? Several public comments on the plan suggest adding animals to the list of Species of Greatest Conservation Need. Specific animals discussed include covotes and wild turkeys – one commenter describes his rationale: "I enjoy seeing wild turkeys around the Rock Creek Park Golf Course and seeing and hearing covotes throughout the park. It's thrilling to know they are there, even if visitors don't frequently see them" (Government of the District of Columbia, Department of Energy and Environment 2015, G-5). The plan authors' respond that coyotes are not considered "native wildlife," and that wild turkeys are common with a stable population in the District, meaning that neither are candidates for the list of Species of Greatest Conservation Need. This response fits the logic of the plan (which "must focus on the rare and declining species whose habitat can be restored" (Government of the District of Columbia, Department of Energy and Environment 2015, G-9)), but misses an opportunity for consideration of other factors that relate and connect humans and animals in the city. If animals like coyotes and wild turkeys are not considered in the Wildlife Action Plan, when and how are they considered as part of planning the city? Who decides which animals are important in cities, and how do these decisions translate into action? This has relevance to contemporary discussions of resilience as well, for the simpler and less flexible our ideas of species we can share cities with, the less likely we will be to discover new configurations and create more resilient futures.

One of the major threats identified in the Wildlife Action Plan is invasive species, which are cited as causing "ecological disruption":

The most effective defense against invasive species is to prevent them from being introduced, which requires monitoring and regulating the pathways by which they arrive. In most instances, however, prevention is not feasible. In these cases, early detection and rapid response (ED/RR) programs are designed to coordinate a response plan to control the initial outbreak and eradicate a new species before it becomes established. Both preventive and rapid response actions require planning, education, a strong commitment of resources, and a coordinated approach among local, state, federal, and private partners (p. 133)

This language, calling upon emergency medical response terminology, creates a scenario in which people are in need of "defense" from the threat(s) of invasive plants and animals. Calling for early detection and rapid response to an "outbreak" likens the threat of invasive species to that of an infectious disease, spreading and harming people in its path. This establishes the plants and animals as foreign, bad, and something to fear and defend against, in contrast to "native" species that are assumed to be something good, or at least not harmful. Not dissimilar from the term "invasive," some recent scholarship discusses the use of the term "infestation" as problematic with reference to unwanted urban conditions, both human and nonhuman:

What does infestation actually mean? In ecology, the term refers to animals regarded as pests, especially insects or rodents, but also bacteria, invading a place (or another organism) in large numbers. 'Drug infested' appeals to this sense of invasion from the outside, but because drugs such as heroin and cocaine do not move into communities on their own, it inevitably equates human beings (drug users and drug dealers) with non-human 'pests'. Perhaps more troubling than this conceptual confusing are its implications: because pests are viewed as noxious invaders or even enemies, references to infestation seem to inevitably invite extreme response or eradication (Draus and Roddy 2018, 812).

Draus and Roddy question the use of alarmist language to characterize human "infestation" of urban areas, in this case Detroit, Michigan, arguing that the words "invade" and "infest" place the onus and origination point of unwanted material and beings always already outside of a place, when the actual situation is a lot more complex, interrelated, and relational. Draus and Roddy raise concerns about how using terms like "drug infested" draws a direct comparison between actual human beings and animal pests

(not dissimilar from the comparisons between urban rats and human immigrants to the United States drawn by detractors of the 2010 Wildlife Protection Act), and by extension that the use of the term implies the need to eradicate the people in the same way one might eradicate animal pests from the neighborhood or the city. While Draus and Roddy are concerned with the human implications of the use of terms like "infested," their argument about drug users and drug dealers being actual people who may be members of the community can in some ways be extended to include the animal pests who, in intimate relation with human activity, are also already members of the urban community, and do not exclusively come from elsewhere and "invade" or "infest." As urban resilience theorist Marina Alberti attests, "humans are selective agents determining which species can live in cities and causing organisms to undergo rapid evolutionary change" (Alberti 2015, 115). In this sense, human choices about where and how to develop, how much waste to produce and what to do with it, and what species to protect or eliminate is the most significant factor in determining configurations of and survival potential of other organisms in urban environments.

The Wildlife Action Plan continually states a preference for native animals and plants, following a strong imperative very common in twenty-first century planning for nature in cities, however this is not unchallenged. One instance in particular relates to the plan's stated preference for native street trees: "Increasing the use of large, native street trees where practicable instead of small native flowering trees and non-native species...could improve the value of urban habitats" (Government of the District of Columbia, Department of Energy and Environment 2015, 113). Kristin D. Taddei, on behalf of Casey Trees, suggests that "native trees are not always the best option for urban streets or areas that will be impacted by climate change. Naturalized, non-native trees may be heartier, more drought-tolerant, and more resistant to the harsh conditions in these areas, increasing the chance of survival to maturity" (Government of the District of Columbia, Department of Energy and Environment of Energy and Environment 2015, G-22). Taddei suggests slight modifications to sections of the report recommending planting of native trees in favor of language supporting "a mix of native and naturalized non-native street trees," but the plan authors respond that they do not advocate planting non-native plants due to their potential to become invasive.

Casey Trees is an organization founded in 2002 involved in planting and maintaining trees in the District of Columbia, and as of this writing has planted over 25,000 trees in the city (Casey Trees 2018). Not all of those thousands of trees have survived, though, and as an organization Casey Trees has extremely relevant and current information about what it takes for particular trees to survive on the streets of Washington, D.C. In that sense, Taddei's recommendations in favor of a mix of native and "naturalized" tree species are informed by knowledge of how things work on the ground in the city, while the Wildlife Action Plan authors' response firmly clings to environmental discourse about prioritizing native over invasive plants. This seems a somewhat limiting vision for what "nature" should consist of in a constantly growing, changing, developing city. The plan authors indicate that most especially they do not advocate for non-native plants "in high value riparian habitat," expressing a preference for only native plants near or in places of high "value." This framework reinforces the earlier discussion about "developed" vs. "protected" land, establishing a scenario in which certain places in the city have "value" and others do not. From the point of view of a relational interconnected network of city spaces, this methodological and discursive approach devalues anything outside the realm of environmental scientists' designations of "high value," which in most cases will not include anything resembling human presence. This approach embraces a "nature-as-thing" ontology, aligned with a modernist framework that Owain Jones problematizes as "seeing nature as separate and given, and cultural contact with it as inevitably corrosive" (Jones 2009, 308). Given the myriad of ways that humans and nonhumans are interconnected in the making and inhabitation of contemporary cities, human contact and interaction with the material we call nature is inevitable and embracing this and working with it might be a more fruitful effort than trying to preserve disconnected and separate spheres.

While invasive species are a major concern of the Wildlife Action Plan, the plan authors (and public commenters) also cite issues in which native species have become "overabundant" and therefore "problematic." The plan authors define a "problematic" native species as "a plant, animal, or pathogen that is originally found in a native ecosystem, but has exited its natural range of variation due to some factor or combination of factors and is compromising native habitats" (Government of the District of

Columbia, Department of Energy and Environment 2015, 141). Whitetail deer and Canada geese are cited in the plan as having increased population to the point where they are not allowing forests to regenerate and, in the case of the geese, are "overbrowsing" wetland vegetation (Government of the District of Columbia, Department of Energy and Environment 2015, 105). The plan's goals include reducing "the resident Canada geese population to zero through a variety of non-lethal and lethal control measures" (Government of the District of Columbia, Department of Energy and Environment 2015, 142). In response to calls for "humane" treatment of geese and whitetail deer, the plan authors note that the impact those species' activities has on critical habitat is "sufficient to warrant rapid reduction in their populations," and they allude to "humane, lethal measures for the management of these species" (Government of the District of Columbia, Department of Energy and Environment 2015, G-12). This is a point at which the insistent and unwavering argument about native animals being "best" for a place reveals a fissure. Whether an animal is "native" or not is also balanced with other factors, chief among them a version of supply and demand argument, for which "overabundance" is a cause for "management" of the population. McCance et al. explain that this is an extremely common challenge in urban wildlife management practice more generally:

One of the important challenges for professionals managing urban wildlife is avoiding the devaluation of charismatic species. For many people, Canada geese are no longer the harbingers of spring and fall eloquently described by Aldo Leopold, but instead are perceived as noisy, illtempered birds that foul municipal parks and ponds, golf courses and athletic fields. The beautiful white-tailed deer is no longer the exciting animal that thrilled people, even with fleeting sightings, just a generation earlier. Hundreds of thousands of white-tailed deer are hit by motorists each year, and more than 200 people lose their lives in deer-vehicle collisions annually in the U.S. Rare and relished a half century ago, today whitetailed deer are referred to by some as rats with hooves. Many stakeholders are unhappy with the high costs and other negative impacts associated with common wildlife species—their tolerance threshold has been reached or exceeded. As more people view wildlife as pests, support for conservation and habitat management can be expected to dwindle (McCance et al. 2017, 8)

Just as with weeds in Chapter 4, animals considered "wildlife" or "pest" vary depending on the situation and population abundance, often with very little admission of the human causes of sustaining this abundance. The funny thing about this, though, is that the most overabundant animal species is human – where do we draw the line? What if, instead of controlling deer and geese populations, we proposed to

"control" the human one? If the argument in favor of "native" species becomes moot in the face of overpopulation, there may be more nuance to this and other arguments than perhaps is usually allowed.

Perhaps the most controversial issue raised by the Wildlife Action Plan is the status of freeroaming cats in Washington, D.C. During the public comment period, plan authors received abundant comments including thousands of form e-mails and letters about the language used in the plan to describe cats in the city. Fierce arguments broiled on both sides of the issue, with some advocating for more aggressive elimination of the cats, and others for continued support of the "Trap, Neuter, Return" practices and generally humane treatment of free-roaming cats in D.C. The plan lists free-ranging cats as "invasive animal species," among other threats to urban wildlife. In response to a comment about feral cats being part of "the balance of nature," plan authors establish their view of feral cats as non-native animals disrupting the "ecological balance":

While change and disturbance in any ecosystem is constant, ecological systems can become significantly disrupted when invasive species are present and dominant. Invasive species are species that are not native to the ecosystem in question (meaning they arrived with human assistance of some sort), and by their presence cause economic harm, harm to human health, or harm to the environment. Free-ranging cats alter the ecological balance of a region, as would any other non-native animal. The domestic cat fits this definition, as do Norway rats, European starlings, northern snakehead and many other animals and plants. (Government of the District of Columbia, Department of Energy and Environment 2015, G-46)

While the plan authors, with their assertion of cats as disrupting the region's "ecological balance," are not sympathetic to arguments in favor of feral cats as part of "the balance of nature," they do respond less conclusively to a commenter who describes feral cats as "a part of my community." The commenter is ostensibly arguing in favor of the cats as a valuable part of their home environment, and the response states: "DOEE is concerned by the number of cats seen and documented in undeveloped habitat areas, and much less concerned about colonies of cats in alleys" (Government of the District of Columbia, Department of Energy and Environment 2015, G-47). Plan authors seem to admit the futility of trying to eradicate cats from all corners of the city, but at the same time reiterate a dichotomous view of "habitat" being only in special and designated places. This view is echoed by another commenter, who takes the opposite view of cats being valued members of the community: "despite their popularity as pets and

important place in our culture, cats do not belong anywhere near DC parks" (Government of the District of Columbia, Department of Energy and Environment 2015, G-50).

Interestingly, the plan details free-ranging cats, along with off-leash dogs and social trails, as "direct human-caused threats to critical natural habitats" and identifies the cats as "likely the single greatest source of anthropogenic (human caused) mortality for U.S. birds and mammals" (Government of the District of Columbia. Department of Energy and Environment 2015, 110, G-45).¹¹ This admission of human causality in some ways aligns with conventional environmental discourse - that cats that are or were once human pets and are now allowed to roam freely are the result of human actions and abandonment of the animals, however the sheer number of free-roaming cats in the District and in many cases their lack of relationship with any particular human reveals the "relationship" between humans and free-roaming cats to be an entangled relational web. At what point does an individual cat cease to be human-caused and become "wild"? At what point is the cat so closely related to humans that it becomes amoral to kill it? At what point do the colonies of feral cats become urban "wildlife" themselves? Some commenters advocate the opposite type of designation for free-roaming cats, suggesting that the "Trap Neuter Return" (TNR) policy is a "weak solution" and that the cats should be trapped and either offered for adoption or that trappers should "find alternative solutions for handling them" (Government of the District of Columbia, Department of Energy and Environment 2015, G-6). Presumably these other "solutions" might look quite similar to pest control operations for other animals in the city, like rats. This calls into question why free-roaming cats have a "special" status – might they be trapped and killed like rats? One difficulty with this raised in the public comments for the plan is that people who participate in TNR programs often do so because they love cats and want to protect their lives – trapping cats is not as simple or straightforward as trapping rats, and people involved in TNR programs very likely would not care to participate in trapping cats if they knew the cats would be killed (Government of the District of Columbia, Department of Energy and Environment 2015, G-45). Conversely, others suggest that the

¹¹ Several commenters raise the issue of feral cats increasing risk of humans contracting toxoplasmosis, but plan authors respond that threats that cats pose to wild animals are more pertinent to the Wildlife Action Plan.

Wildlife Action Plan should advocate for expanded TNR efforts, but the plan authors respond that "this is not appropriate to the stated goals of the plan to conserve rare species and critical habitats" (Government of the District of Columbia, Department of Energy and Environment 2015, G-45). The plan authors reiterate the central goals of the plan, that ostensibly have little to nothing to do with continued presence of or protection for outdoor cats, which they have identified as an invasive species and a threat. Thus, as explicitly stated, the Wildlife Action Plan is focused on concern and care for animals with specific characteristics identified and desired by humans, in this case those that are "rare." This approach is predicated on a vision of "nature" and the "environment" that prioritizes biodiversity and retaining particular species indigenous to a place at a certain time, but does not include appreciation for all life forms – the desire to return or maintain the city with a specific list and number of species is a very deliberate choice, one often assumed to be "natural," but not inevitable or universally embraced as the "right" approach. While cats in the city are far from rare, they also have specific characteristics that many people find worthwhile, which makes a policy of eradication somewhat untenable.

Cat advocates question the importance of placing emphasis on eradicating the cats as solutions for wildlife protection, and point instead to "other factors that have a greater impact on wildlife, such as the increase in commercial and residential development, polluted air and water" (Government of the District of Columbia, Department of Energy and Environment 2015, G-45). While the Wildlife Action Plan details a variety of other threats to wildlife, the argument that these other threats are more important seems to suggest that rather than looking outside of ourselves for causes of threats, that we examine our own activities and address and remediate human development practices in a more sensitive way first before turning to animals as the problem. The plan itself does not advocate prioritizing elimination of cats over, for example, reduction in stormwater runoff, but the firestorm of interest over the status of cats in the plan is far more tangible and personal in some ways than other threats discussed. Jennifer Wolch describes the way several researchers (Griffiths, Poulter, and Sibley 2000) categorize responses to feral cats by the way they actually reflect the residents' understanding of the city context at large:

Responses to feral cat colonies among local residents were affected by their social constructions

of the built environment. They rendered cat spaces either discrepant or acceptable urban features, and promoted ideas of feral cats as either legitimately wild or domestic 'convicts on the loose', ultimately engendering urban social conflict. (Wolch 2002, 730)

These authors argue that resident responses to feral cats are directly related to the social constructs they understand and promulgate related to their own environment. The cats themselves, not unlike weeds in early twentieth century Washington, are not de facto nuisances, but the ways in which people respond to them fit into and extend their socially constructed narratives of the city.

When discussing implementation, Wildlife Action Plan authors make it clear that the city is not a place with a simple and easily legible political structure: "The District is a complex puzzle of multiple federal jurisdictions, fragmented land ownership, and shared river systems, bracketed by neighboring states" (Government of the District of Columbia, Department of Energy and Environment 2015, G-5) This underscores the need to think critically about making connections and strengthening relationships, not merely focusing on what is inside urban boundaries or within the jurisdiction of a particular urban governance organization. A District resident shares some connections between departments that affect implementation of the Wildlife Action Plan:

Within the broad extent of District and Federal programs, many other agencies' actions affect wildlife through the way that they conduct their activities. For example, DOEE Stormwater Management encourages District residents to plant rain gardens using native vegetation which benefits wildlife. The Department of Transportation (DDOT) manages roads and lighting, both of which affect wildlife. Federal land management agencies, like the National Park Service, manage waterways and many parcels in the District which provide excellent wildlife and fish habitat. (Government of the District of Columbia, Department of Energy and Environment 2015, G-5)

Other commenters call for incorporation of bird-friendly design principles such as bird-friendly glass and warning lights on tall towers into building codes and the permitting process (p. G-17, G-19). This type of coordination is also called for by public commenters in regards to coordination between the Department of Energy and the Environment and animal control operators, but the Wildlife Action Plan authors do not respond. Stella Tarnay of Biophilic DC raises the question of "de facto management that occurs through the hiring of Nuisance Animal Control companies by District residents," asking for consideration of how this work affects animals in the city. Coordination and discussion of these related efforts might make for a more relational planning process that acknowledges human and animal concerns beyond desires to count

and protect rare species motivated by particular environmental discourses (Graham and Healey 1999; Beauregard 2015).

This is not intended as a challenge to the desire to mitigate human impacts on or improve conditions for urban animals and plants, but to the idea of "restoring" things to some preferred state or "protecting" things to keep them frozen in a selected moment in time. That the Wildlife Action Plan states that threats require immediate attention wherever "high quality critical habitat" is located seems futile in some ways, as though perhaps ecological conservation measures should account more deliberately for the relationality between urban plants, animals, and humans, rather than attempting to "wall off" and isolate the few small places that are considered "high quality" (Government of the District of Columbia, Department of the Environment, Fisheries and Wildlife Division 2006, 132). What if, instead, planning goals shifted towards working with what is to find new, hybrid, cyborgian solutions that are flexible and build on present conditions and future possibilities? One glimmer of hope in this regard appears in a section of the Wildlife Action Plan: a discussion of nesting boxes where possible to create spaces for bird species who would otherwise no longer have them in the urban environment. While the plan authors indicate that nest boxes "should not be viewed as a remedy for the chronic problem of habitat loss and degradation," they might be considered as one of a number of strategies that envision building and rebuilding city space to allow for more-than-human inhabitants. This approach carries implicit admission that humans construct not only buildings, roads and objects, but also "nature." Kimberley Kinder describes a planning process in the Netherlands with the goal for humans not only to "make" nature, but to create and construct materials and connections that would allow nature to "make itself":

Planners...attempted to shape a base terrain of action encased in the urban infrastructure defining the residential islands' footprint that would set spontaneous hydrological and biological chains of events in motion to create the desired bodies of birds several steps removed from the planners' hands (Kinder 2011, 2446).

This explicit desire to construct conditions that might allow nature to "make itself" defies dominant environmental discourses that envision nature (in the form of animals and animal habitat) as a limited resource to protect and keep safe from human influence. Opening up planning processes and practices to

more relational and explicit construction, both theoretical and material, would shift both discourse and practice significantly into the realm of human/non-human collaboration and connection.

Redefining Urban Wildlife

Washington, D.C., as the only United States city with a Wildlife Action Plan and a Wildlife Protection Act is quite unique among cities in the United States. As of this writing, wildlife control operators are required to seek licensure with the District of Columbia Department of Environment and Energy, ensuring that "wild" animals considered to be a nuisance are protected by the parameters of the act. Animals not considered "wild," however, do not fare as well. Despite admission by wildlife professionals that many nuisance cases are "a human problem, not an animal problem," animals like rats and feral cats and even native animals such as Canada geese and white-tail deer are thought of as expendable.

What might it look like to redefine groups of animals considered "wild" or "wildlife" in cities, and therefore worthy of protection or at the very least consideration? Designation as "wildlife" is a proxy for a being that is loved by humans for one reason or another – and is associated with a narrative of the animal's historic association with an area, its photogenic properties, its uniqueness and special qualities. Different animals are considered "worth" protecting in different places at different times; our conception of "urban wildlife" is directly related to the particular time and place we live in. For example, though they may not be considered "wild," cows roam the streets in Indian cities, safe and protected by religious beliefs. An animal that appears primarily and ubiquitously as a hamburger in American cities exists in live flesh in Mumbai. The policies and regulations and social norms we adopt and accept have a direct influence on the types of animals we allow to co-exist with us in cities. What types of animals should these be? Should any and all animals be part of city life – is it even physically possible to exclude some? Wellington, New Zealand is on a quest to do so – through a fenced-off reserve called Zealandia and a project titled "Predator Free Wellington," the city is attempting to "bring back" and support habitat for native wildlife, particularly birds and lizards. This will be and is at the expense of other animals, among

them rats, opossum, and mustelids. While the city literature convincingly argues for the importance of native birds and lizards, it is less clear that the lives of hundreds of thousands of rats and opossum are as expendable as they are made to seem. Treating the city as a kind of zoo, where only specially chosen animals are encouraged, seems to negate the wider relationality of life and the world today, in which keeping outside influence at bay and maintaining a carefully curated habitat designed to capture and perpetuate "the way things were" at a particular moment in time seems an impossible and perhaps even disingenuous pursuit. How might re-defining what we mean by "native" and "wild" open up new possibilities for different types of animals to co-exist and flourish alongside humans in urban configurations of the next several hundred years? Jennifer Wolch imagines that planning without a more holistic approach to animals as part of city life will be detrimental not only to animal experience, but for human growth and progress as well: "the radical exclusion of most animals from everyday urban life may disrupt development of human consciousness and identity, and prevent the emergence of interspecific webs of friendship and concern" (Wolch 1996, 37).

A plan for the animal life of a city, one that takes the lives of animals seriously, would take all animals living in the city as a starting point, and develop more holistic and inclusive ideas about conservation and management. Mammals like city rats are not in need of "conservation," but money spent on conserving or protecting "precious" and rare "wildlife" might be equally or more justified on measures such as secure handling of trash throughout city alleys – addressing a human problem that creates conditions in which hundreds of thousands of rats and similar "pest" animals are currently captured and killed. This is not to say that there is not a justifiable basis for species conservation, or that rats are the only animals that matter in cities, but a question about what it might look like to plan more holistically, taking into account a larger variety of animals ever-present in cities, including humans. It seems like plans like the Wildlife Action Plan are in some ways driven more by "supply and demand"-based reasoning than by actual care and concern for animal life: if there were only 100 rats in the city, all of whom found their own food sources and stayed out of people's way, but there were 500,000 bald eagles, ravaging over scraps in alleys, pooping everywhere, and biting people and pets, would we similarly unthinkingly

exterminate the bald eagles at will? Or would our concern for the value of a bald eagle's life (and our patriotic pride in our national mascot) make our attitude and approach to the surplus and bother of the eagles more nuanced and careful? The scientific principles behind determination of Species of Greatest Conservation Need in the DC Wildlife Action Plan are well-reasoned and compelling, but conservation measures only for those animals pre-determined as "wild" disregards many other animals that we are all too ready to continue killing by the thousand, often permitted to grow in population as a direct result of human actions.

A final human condition the Wildlife Action Plan references as a threat to animals and habitat is combined sewer overflow, pipes that dump billions of gallons of sewage and stormwater into District waterways. In this way, human waste quite literally pollutes the water and food sources of animals sharing the city. While considerable efforts are underway to mitigate this (District of Columbia Water and Sewer Authority 2017), it seems that ultimately planning with and for "nature" should and is really about planning to manage human waste, whether trash or feces or stormwater not infiltrating due to humancreated structures. Rather than the discourse of fear designed to spur action for "protection" of limited "natural" resources in the city, planning efforts might shift or expand towards improving relations between humans, plants, animals and the land as a whole is to find creative and "healthy" solutions for the abundance of waste that we create.

Washington's 2010 Wildlife Protection Act and 2015 Wildlife Action Plan are cases that illustrate contemporary discourse related to urban animals, revealing both potential and promise as well as the tendency to cling to outmoded ecological thinking. In these cases, it is clear that designation as "wildlife" is a proxy for animals that are loved by humans, and that environmental discourses surrounding the act and the plan are couched in socially constructed and culturally specific language that is not "common sense" but rather adopts a very particular positionality in which some animals, particularly those rare and adorable to humans "win" and others lose. While the preponderance of discourse related to urban animals as revealed by the legal and planning activity in Washington in the early decades of the twenty-first century reveals a unique set of cases in which animals matter, neither of these cases is

exemplary from a relational point of view in which nonhumans deeply matter and actively co-constitute both the physical and theoretical "city." A plan for the animal life of a city should consider holistically all animals living in the city, not just those that are beloved for their benefit to humans. Rather than focusing on animal "protection," planning efforts to support animal life in cities might best be focused on mitigating human impacts and recognizing and realizing the potential for animals to co-create material and social aspects of what a city is and can become.

Chapter 6 Planning Without Wildness

This foray through the natures in planning discourse, the discourses surrounding the McMillan Plan, the 1899 Weed Removal Act, and the 2010 Wildlife Protection Act and 2015 Wildlife Action Plan is intended to demonstrate the need to plan for urban plants and animals in relational ways that acknowledge both social construction of "natures" and immediacy and importance of nonhuman materiality as part of urban life. The more nuanced and interconnected planners' nature-speak is, the greater opportunities there will be to plan and create policy which acknowledges and embraces the presence and agency of a variety of nonhuman urban inhabitants. Conversely, when "nature" is narrowly conceived and inflexible, when certain plants and animals are prioritized over all others, and when planners and designers do not see themselves and their work as intimately connected and in relationship with the abundant and unplanned life that does and could exist, this seriously limits the potential for sensitive growth, creativity, and flexible thinking that will create resilient sites, cities and regions. When certain plants are considered "weeds" and therefore classified as "not nature," this promotes an approach to managing urban vegetation that eliminates anything that is either not intentional or not perceived to be "pre-dating humans" or of intrinsic value for human activity. When certain animals are privileged over others and the central mode of planning for animals prizes the rare and indigenous, this negates the relational inter-connections that already exist and opportunities to plan in ways to manage and construct new connections that generate creative and generative configurations rather than perpetuating mentalities of "us" versus "them." The following chapter proposes new approaches to moving beyond the idea of regulating urban wildness, suggests small ways in which we might shift planning discourse towards more relational thinking that includes, responds to, and incorporates the nonhuman other, ponders how these sorts of shifts might in turn influence planning and design practice, charts out a path for future research expanding on this study, and concludes with an argument for embracing entanglement with nonhumans as part of the practice of planning, the project of living in cities, and the prospect of deepening our own humanity.

Contemporary planning scholarship reveals a variety of ways planning scholars and practitioners are imagining and approaching nature in the early twenty-first century, but also is comparatively less involved and active in discussions of natures as plural, complex, and intertwined than readily apparent in other related fields. The allegiance to dualistic attitudes and approaches towards "nature" and "the city" evident in the cases studied herein and reflected in wider contemporary environmental discourse create a situation in which people form particular expectations for how "nature" is supposed to act and be present (or not) within the city, which makes relational approaches to planning for plants and animals in cities almost untenable from the start. Expanding vocabularies and theoretical approaches to "nature" in planning discourse and practice is necessary to more fully and completely account for the complexity and interrelatedness of humans and nonhumans in the project of city making.

The McMillan Plan for Washington, D.C. set the tone for the city and the country by reiterating and establishing a dualistic vision of the ways in which "nature" and "the city" should be constructed as contiguous but independent entities predicated upon and reflecting aesthetics of powerful white human visions of control, simplicity, and order. The report, considered by scholars today to be the nation's first comprehensive plan and also a reflection of the design ideals and aesthetics of the City Beautiful movement, was particularly influential in laying the groundwork for future planning in the District of Columbia but also in many other places that looked to the capital city as an exemplar. The McMillan Plan, though impossible to separate from the time and milieu it was part of, established a precedent of human dominance over all other life forms and a vision for a built and planted reflection of power and control of the human and nonhuman inhabitants of the city. Though heralded as an exemplar and a great success, the consequences of a plan prioritizing a particular human view and vision are still felt today in the ways that people and plants are expected to be in the city in particular ways, or in some cases not to be in the city at all. In the context of contemporary planning for urban natures, the McMillan Plan's legacy is one in which planners and designers today feel empowered to complete control and dominance over nonhuman life forms and are continually frustrated by dissonance between expectations for order and perfection and on-the-ground materials that do not suit these.

An early example of a battle between visions for order and perfection and the messiness of material conditions on the ground in Washington was the discourse surrounding the 1899 Weed Removal Act. Residents throughout the city, presumably many of them wealthy property owners, as well as journalists and lawmakers fomented political and popular discourse that attempted to establish weeds as threatening human health, endangering public safety, and marring the aesthetic integrity of the city and by extension the nation as a whole. Weeds, weedy lots, and absentee property owners throughout the city were villainized as disrupting attempts at order and basic sanitation and cleanliness, and when the act passed, expectations were established that the "weed problem" would be solved, and that people would no longer need to tangle with weedy unwanted plants throughout the city. As discussed in Chapter 4, enforcing the weed removal law was challenging to the point of being nearly impossible, and Washington's health officer made very clear, especially after years of inability to enforce the law, that in his estimation weedy plants actually did not pose any serious threat to human health. Other threats at the time were far more pressing, including, for example, the smoke prevention law passed in the same session as the weed removal law.

Attempts to achieve a "weed-free" city were impossible, not just because of the plants' abundance and superior ability to reproduce and occupy greater and greater space, but also because of the largely unacknowledged relationship between human activity and material and the plants' success and livelihood. The Weed Removal Act was far from inevitable, but was a direct reflection of the desires and tastes of primarily elite members of Washington society at the time, and a reflection of the legacy of colonial ideals and visions of a perfect, utopic place free of visual and material evidence of messiness and anything antithetical to either orderly "nature" in the form of planted trees and gardens or "wild" places sanctioned by a pictorial landscape legacy and carefully created and maintained in the image of landscape paintings of what "nature" and "wilderness" should look like. In a sense, the weedy plants themselves offered an opportunity for people to express their vision for taste, simplicity, and order by providing material antithetical to those ideals: the weeds of the late nineteenth and early twentieth centuries in

Washington revealed fissures in utopic visions or the city, and persisted in thwarting these visions and asserting heterotopic materiality despite physical and theoretical attempts to eliminate them.

Environmental discourse and public expectation for "nature" and "wildness" to be kept either in a designated place or outside the city altogether continued throughout the twentieth century and is reflected clearly in the discourse around Washington's wildlife regulatory and planning activity in the 2010s. The city's controversial 2010 Wildlife Protection Act attempted to establish basic rights for humane treatment for "nuisance wildlife" in the city, and raised and incited a great deal of discussion and argument about the status of various types of animals as welcome or not in the city. Pest control operators argued that the new law would make their businesses more expensive, while those affiliated with the Humane Society of the United States and other similar organizations argued for the moral and ethical imperative to treat animals with respect and care. Though the act explicitly excluded commensal rodents from protection, misinformed elected officials to dump dead rats in nearby Maryland and Virginia. The law itself and the intense debate, both informed and not, that it inspired speak to the level of fear people have for heterotopic animals sharing city space and the need to continually work with urban animals who are part of city life whether part of grand visions for orderly "nature" or not.

The 2015 Wildlife Action Plan, simultaneously narrow in scope and broad in reach as a part of a Federally mandated plan at the state level, but with implications nationally and globally, similarly incited a great deal of angst about the status of animals as nonhuman members of city life in Washington, with a strong emphasis on maintaining and promoting separate "nature" spaces apart from "developed" areas in the city. The Wildlife Action Plan is perhaps the most explicit of all examples herein, in which environmental discourse aligned with dualistic visions of how humans and "nature" do and should operate is abundantly clear and reiterated throughout the plan via the selection criteria for species of greatest conservation need, the commentary about "precious natural areas," and the visual material including maps that establish "nature" as a special and very small part of the city that must be protected. However the discourse around the plan reveals a much more complicated and interconnected relationship between

humans and animals not so easily resolved or planned for, one in which the lives of animals such as feral cats become a battle ground for larger arguments how to reconcile the value of individual animals' lives.

Shifting Discourse

Urban geographer Matthew Gandy, in a 2013 article titled "Marginalia: Aesthetics, Ecology, and Urban Wastelands," explicates the ways in which term "wasteland" and its synonyms in English and other languages has been deployed as both a pejorative descriptor for unoccupied urban space as well as a complex and even poetic nod to spaces that both fascinate and frighten. Gandy examines and advocates for an emerging and less overtly utilitarian vocabulary for these places where spontaneous plants appear in cities. He argues: "by regarding nature differently, in both cultural and scientific terms, a set of counter discourses can be articulated that question the pervasive emphasis on wastelands as sites simply awaiting their erasure and development" (Gandy 2013, 1302). These counter discourses might challenge prevailing vocabulary such as "vacant," "overgrown," and "abandoned" used in planning practice to describe urban spaces unoccupied by human activity where plants and animals have emerged and succeeded, and in so doing, shift contemporary narratives and associated action towards more nuanced and sensitive treatments of heterotopic plants and animals and their found conditions.

At the turn of the twentieth century, there was an undercurrent in planning discourse, at the time not a professional field but a centuries-long practice nonetheless, of possibility and promise. With grand plans like the McMillan Plan, visionaries sought to imagine ways in which, over time, cities might reach an end state of ultimate perfection, glorifying architecture and human achievement. Planning theory aimed at overcoming prior technological limitations and creating visions of a city impossible to achieve in one lifetime. As an example of the discourse of the period, the McMillan Plan was conceived as a guide to construction that should be followed and implemented over decades, as funds became available, not a plan with immediate effects for the people, plants, and animals in the city. "Nature" in the form of vegetation and human experience of that vegetation was a "thing" to be used in service of the larger architectural goals of the plan for the human city. This sort of long-range planning vision, common at the

time, conflicted to some degree with the immediate desire to rid the city of undesirable plants. The discourses around weeds at the turn of the twentieth century were emphatically about immediate action against a veritable foe, not aligned with grand visions for future action. What the work herein suggests is that while planning practice and discourse have evolved significantly over the course of the twentieth and early twenty-first centuries, discourse and practice around urban weeds has changed very little to date. However, everyday and grassroots perspectives on what types of plants should share cities with humans and where and how are shifting in new directions and valuing new ways of thinking and seeing weeds in cities, which may necessitate a shift in planning discourse toward greater sensitivity and creativity when excavating and planting. Just as planning discourse and practice have changed from a model of "top down" visions of beauty and grandeur to considering the importance of people and communities of people via communicative action and equal participation, and presently towards models of equity and inclusion, now perhaps is the time to evolve thinking and practice to more expansively include urban nonhuman inhabitants, both plants and animals, in creative and unexpected ways.

Environmental plans like Washington D.C.'s 2015 Wildlife Action Plan follow a very narrow and specific directive from the Federal Government: to determine how to allocate funds to best preserve the Species of Greatest Conservation Need, both in the city itself and nation-wide. This planning approach is distinctly preservationist: identifying various parts of "nature" (a thing) that must be preserved for the good of the species as a whole. While connected with on-the-ground species and experiences in the city, this preservationist stance is similarly disconnected from the complicated and intertwined ways that animals and plants inhabit the city with humans. The Wildlife Action Plan, along with many other environmental plans of the time (and today) sees "nature" and "wildness" as things that need preserving, overlooking opportunities to theorize and practice a more complex and co-created vision of plant, animal, and human life. These complex and co-created visions might include language within contemporary planning structures and documents that more expansively accounts for animals and plants as they presently exist and might exist in cities, or might necessitate new types and ways of planning that do not fit into present structures. It seems unlikely, for example, that the State Wildlife Action Plan process and

associated Federal mandates will shift significantly towards radical interconnectedness, so in the case of this type of planning for urban animals, other tools and approaches are needed. These other tools and approaches need not be purely devised at the government scale, however – the case of Naturpark Südgelände in Berlin, Germany offers an example in which people banned together and created a Non-Governemental Organization to advocate preserving unplanted elements of a place that would otherwise have been developed in a more traditional manner (Kowarik and Langer 2005). While Berlin is certainly a unique case and cannot be generalized to every context, planning discourse and practice have opportunities to shift and expand to include more-than-human ideas and ideals, particularly when the pitfalls of present planning and design practices are becoming more and more apparent in the context of extreme climate events, natural disasters, and infrastructure collapse.

The 2010 Wildlife Protection Act and the discourse around it delves much more deeply into connections between humans and animals in cities than other legal and planning instruments studied here, though still with a clearly hierarchical preference for certain animals as desired members of the community. The discourse around the Wildlife Protection Act in particular illustrates how there are also stark political and philosophical differences in approach to the ways animals can and should share city life with humans. Many people view cities as places primarily (perhaps even solely) as habitat for humans, despite the degree to which it is clear that this is not true (Beatley 2011). Given the divisive political climate, particularly in the United States in the early decades of the twenty-first century, options for increasing understanding of complexity and interconnectedness and relationship between humans and nonhumans in cities may also be limited by people's limited experience and extreme political beliefs. What might a shift in discourse mean for plant and animal life in cities, as well as for interactions between humans, plants and animals in cities? The very idea of planning is steeped in practices of destruction and re-creation, but sometimes the most thoughtful plans and planning practices are the most sensitive and responsive to flows, materials, and memories of what came before, or what might emerge or be enlarged if we create the right conditions. Re-thinking plants and animals often thought of as "undesirable" in ways that might incorporate them more into professional discourse and thereby practice holds potential and

promise for creating and maintaining cities that are more sustainable, resilient, and inclusive, but the path to this must be creative and find ways to interest and engage people with very diverse views and experiences in ways that will positively impact practice.

Relational Cities

Arguments such as those in the McMillan Plan, the Weed Removal Act, the Wildlife Protection Act and the Wildlife Action Plan about which plants and animals should be in the city and in what ways are more than simple and isolated arguments about particular plants and animals: these arguments collectively construct a vision for what "the city" should look like and who and what should be allowed in it. When something is theoretically and materially set apart from humans as "wild," the very act of distinguishing makes the material into an "other," separating it from human affairs in ways that allow for perpetuation of human dominance and control. This othering is also applied to plants and animals seen as nuisances and pests, though quite a bit less convincingly when one traces the indelible interconnections that exist between humans and these animals. These interconnections work in interrelated ways: not only do plants and animals feed on human waste, but undesired plants and animals provide benefits to humans in ways not always overtly understood or appreciated. Alfred Crosby, for example, goes so far as to suggest that weeds in colonial America were actually so vital to rejuvenating the land that those who disparaged them might be known as "wretched ingrates":

Weeds were crucially important to the prosperity of the advancing Europeans and Neo-Europeans. The weeds, like skin transplants placed over broad areas of abraded and burned flesh, aided in healing the raw wounds that the invaders tore in the earth. The exotic plants saved newly bared topsoil from water and wind erosion and from baking in the sun. And the weeds often became essential feed for exotic livestock, as these in turn were for their masters. The colonizing Europeans who cursed their colonizing plants were wretched ingrates (Crosby 2004, 170).

Crosby explains ways in which weeds, at the time thought of as waste material to dispose of in favor of a "better" plant or a better situation for the land, were much more intimately tied with the success or failure of the colonial enterprise. When plans and regulations and people villainize weeds and nuisance animals, seeing only negative attributes, this refutes the ways in which various plants and animals operate in tandem with human activities, offering material and activity that admittedly undermines some human

attempts at power and control, but also offers other benefits, some hard or even impossible to see or understand, and even perhaps opportunities to more fully understand the project of being human and interacting with nonhumans in the world.

Washington's McMillan Plan, Weed Removal Act, Wildlife Protection Act, and Wildlife Action Plan all work within and perpetuate existing power structures; none of them are truly transformational. These planning and regulatory efforts may be understood in the way that planning scholar Oren Yiftachel describes urban planning, as facilitating "elite domination and control of four key societal resources: space, power, wealth, and identity" (Yiftachel 1998, 403). This lineage, this orientation towards social control and of city building in which nonhuman animals and plants must also be controlled in deference to these larger ideals, is one that must be complicated and re-thought in order to re-make cities in a new image that opens up and offers more to more people, plants, animals and things. Relational and new materialist planning with the power to transform the ways in which we plan and regulate plants and animals we share the city with would assume intrinsic worth of all plants and animals in and around the city, rejecting the colonial lineage that enables humans to prioritize only human concerns, and primarily elite and wealth-driven human concerns at that. Such planning would work with what is and what comes, striving for creative adaptation with and "un-wilding" of "other" plant and animal species. This unwilding would reverse attempts to set things apart and tame them in a particular image: when all animals and plants are understood as welcome in the city, the set of relations and interconnections is much more complex and intertwined, and not so easily delineated with borders or species lists. A relational city is one in which there is no longer a need to designate separate spaces for "nature" and "wilderness," but where the idea of human and wild or human and nature are complex, intertwined, and seen as interacting in every part of the city experience, including at one's own doorstep (Cronon 1995a).

Embracing urban relationality would mean not limiting plants and animals or material and theoretical expectations for them to particular sections of the city, and would disrupt attempts to maintain separate and regimented "nature" areas and to completely eliminate heterotopic plants and animals. While heterotopias as Foucault imagines them will exist as long as we plan for and set expectations for utopias,

plants and animals that do and could share city space with humans need not be subject to ill treatment because of human visions for order and beauty. Rather, a relational city would adopt a more distributed model, one in which material and flows of plants and animals presently reviled as heterotopic and easily discarded as waste are encouraged as part of cultural and environmental imaginaries. Through a delicate balance of managing human activity and inviting nonhuman presence, cities without wildness would welcome and work with plants and animals in ways that might start to chip away at the long-held definitions of "wild" and "city." Rather than "weeding" places and "controlling" animals, relational cities would find ways to work with a great variety of nonhuman life to find creative solutions to invite plants and animals in, or in some cases to change human habits and practices to eliminate the attraction of and need for killing thousands of plants and animals. Scholars in relational geography and urban ecology are charting the course in this direction, imagining the city as a complex, adapted system, one with the potential to grow and change in unexpected ways that will continue to adapt and interact with existing and future conditions, both human and nonhuman (Hinchliffe and Whatmore 2006; Alberti 2016).

A more deliberately relational practice might involve inviting "weeds" in to medians, sidewalk planters, rain gardens, and many places presently manicured as lawn. This might also look like drastically reducing the amount of food waste humans produce, and finding much more effective ways of disposing of what little food waste remained, so as not to attract and sustain rodent populations in the first place. The most important way the discipline of planning would change in response to embracing relational visions for cities is an expansion of human-centric practices to include significantly more nonhuman inhabitants, in particular those not planted, sanctioned, or adored by people. Present planning and design practices favor not only human needs and desires for human comfort, but also exclusively nonhumans with historical, cultural, and practical connections to human needs and preferences. A relational city refutes human preference and desire as the only factor for what can and should be included in "the city," setting forth an expanded vision to include materials, beings, and flows that unsettle, add mystery, and challenge conventional assumptions.

If the status quo of a relational city is not one entirely driven, planned and designed for human interests and needs alone, the conversation shifts in ways to include and support more complex relations between humans, animals, plants and things in cities. In some cases, this might not make much material difference on the ground – for example, the case of Detroit, Michigan is often cited as a place that has become more "wild" due to significant human population change and resulting shifts in the number of properties and city spaces fully occupied and cultivated by humans. A relational city approach, rather than looking at Detroit's present condition and seeing all it is lacking, might look to the ways in which human needs and preferences might be and become more entangled with plant and animal preferences and habitats as the city continues to change shape and become something new. This is not to say that a relational city is necessarily one completely occupied by plants and animals with no traces of human habitation – a city is not a city with no humans. Rather, a case like the city of Detroit illustrates an opportunity to re-envision, challenge and question what it means to be a "city" in the first place, and even in a future one hundred or more years from now, even if the city of Detroit is completely built and human occupied, our collective memory will hold traces of the ways in which "city" and "wild" can become mixed and entangled in indelible ways. The very vision of a relational cities agenda is one that questions, critiques, and re-frames prevailing assumptions about the necessity for human dominance and order as a prerequisite for being a "city." In a relational city, entanglements between human and nonhuman are the norm, planning, design and building practices are sensitive to sites, flows, and memories, and some element of chaos and disorder are expected, even embraced, as part of the practice of living in close proximity with others.

Implications for Practice

In addition to relational shifts to planning discourse, there are important ways in which the work herein suggests implications for planning and design practice. Shifts towards embracing and working with plants and animals not explicitly planted and loved by humans might make room even in slight ways for greater complexity and resilience in the urban environment. Whether expanding ideas of the types of

plants and animals urban life can and should support through the use of more nuanced and inclusive language, or making physical space for "other" plants and animals presently seen as undesirable, these shifts have the potential to re-invent "the city" in our minds and in our day-to-day lives. This plays out in several ways in practice: embracing urban weeds has the potential to reduce harmful practices currently in place to destroy them every year; expanding the types of species and ways in which nonhuman plants and animals might share the city with humans has the potential to contribute to urban resilience, and reexamining "business-as-usual" practices in an effort to complicate and reinvigorate urban plant and animal life might have ripple effects for changing or expanding human preference and delight in ways that cannot be predicted or understood until we try it.

While in the late 1800s weed removal was a matter of labor and time, by the early twenty-first century weed removal and lawn maintenance also included in many cases chemicals dangerous to the health of people, animals, and ecosystems (Robbins and Sharp 2006). While some jurisdictions, notably San Francisco in the United States, employ the Precautionary Principle, acknowledging the uncertain potential for risk with deployment of chemicals across the landscape in an effort to reduce and limit harmful chemical use, the practice is extremely prevalent across many other cities and states, with injurious effects system-wide (San Francisco Department of the Environment 2014). In their 2012 collaboration, Richard Misrach and Kate Orff visually and spatially describe ways in which all of us are becoming petrochemical through intimacies with the cultural landscape(s) of petrochemical production and consumption, of which weed killers and lawn chemicals are a major part (Misrach and Orff 2014). This work implicates many practices that are considered "normal" parts of everyday life as complicit in a larger environmental crisis. A cultural regulatory and planning shift towards "weeds" as a welcome part of urban and suburban environments might contribute to a significant lessening of overall chemical usage and improvement of human, animal and ecosystem health and sustainability.

Broadening the scope and complexity of planning and regulating urban plants and animals also has the potential to contribute to more resilient cities and regions. Rigid expectations for the types of plants and animals and the places they should and should not appear in cities in many cases lead to

expensive and unsustainable maintenance regimes and animal management practices. One particularly cogent and slightly ironic example of this is High Line Park in New York City: inspired by happenstance plants that grew upon an elevated rail line that was no longer in human use, the richly landscaped park now costs millions of dollars each year to maintain. While the park is loved and used by many (including the author), that the once-weedy landscape that inspired the park is now meticulously planted with specific species extremely costly and water-intensive to maintain but intended to mimic the weeds that grew on the elevated rail for many years after humans discontinued using it is a sort of cautionary tale for those planning and engaging with more resilient ways to preserve, memorialize, or work with future spontaneous plants in other places (though a cautionary tale not always heeded).

In addition to issues around resilient and sustainable urban plant and park maintenance practices, the dynamics and habits of various species of plants and animals are themselves altered by and adapted to various characteristics of urban development and processes, and as such they themselves change (Alberti 2015). This being the case, clinging to scientific observations and theories that dichotomize human and nature and see a set of bioregional species acting in the same ways they do outside cities and the same ways they did at particular moments in time as the desired end in a limited and shrinking urban "nature" (as plans examined herein do) negates the ways in which cities and natures are entangled and co-creating one another limiting the potential for creative and unpredictable solutions to future problems that may not even exist yet. While multiple and sometimes conflicting definitions of "resilience" exist and are used to advance arguments in incompatible ways (Davoudi et al. 2012), I argue that a resilient city is one that takes all species and dynamics into account and reduces overall use of "common sense" assumptions about what types of plants and animals are "good" or "bad" while charting a path towards a city that works for current and future human and nonhuman inhabitants. One particularly compelling definition of resilience is evolutionary resilience, which as described by Simin Davoudi "promotes the understanding of places not as units of analysis or neutral containers, but as complex, interconnected socio-spatial systems with extensive and unpredictable feedback processes which operate at multiple scales and timeframes" (Davoudi et al. 2012, 304). Embracing multiple scales and timeframes is not intended as a

refutation of desires to preserve and celebrate particular species and associations, but to expand and complicate overly simple approaches that do not allow for evolution and adaptation to new versions of "native" and "indigenous" and what these terms might mean in ever-changing and evolving urban configurations.

What would it look like to embrace heterotopic plants and animals as part of city planning practice, and how might this alter human preference or even instill new sources of delight and wonder? Scholars and practitioners have charted paths in this direction. Norbert Kühn, Professor of Vegetation Technology and Plant Use at the Technical University of Berlin argues that there is inherent aesthetic potential of spontaneous urban vegetation that has not been reached, and that design interventions might help make this vegetation more attractive, thereby also offering spontaneous plants as a viable alternative to more costly ornamental species. Kühn imagines an active role for landscape architects in this process, and while his field research to understand the types of species that might contribute to overall attractiveness and acceptability of spontaneous plants is encouraging, he concludes perhaps a bit hastily that spontaneous vegetation on its own cannot be seen as attractive and requires improvement. He claims, for example, that "ruderal groundcover" and "pigweed shrubs" offer "no particular appeal," and argues that measures changing species composition to improve aesthetic value is the way to address spontaneous vegetation, rather than other options he identifies, such as maintaining the current state of vegetation, allowing for succession, or making changes to the way plants will succeed by altering the physical structure of plant communities (Kühn 2006, 47–48). While Kühn is operating from a position attempting to argue in favor of spontaneous plants, his underlying assumption about certain plants' lack of aesthetic appeal would be interesting to test empirically. Often projects attempting to infuse a bit more spontaneity and invite the nonhuman "other" into urban design pair these efforts with education or signage that explains ecological value or significance that may be hard to see or understand. Human expectations for "nature" in cities are not developed in a vacuum, but interact to a significant degree with social and cultural constructs and expectations for how "nature" should appear and perform. When places in the city are out of step with these expectations, discourse emerges leading to laws like the Weed Removal Act.

One place in the world where this has not been the case is Berlin, Germany, a place rich with recent history of growth and study of weedy plants and animals who love them leading directly and slowly over time to people loving them, and resulting in radically unique human-nonhuman alliances and planning and design outcomes (Lachmund 2013). This is not to imply that the material conditions and cultural particularities of a place like Berlin can easily be applied elsewhere, but to argue that it is not inevitable that in every case weedy conditions result in a weed removal act, and that awareness, interest, and embracing of different configurations of human-nonhuman entanglement is a possibility just as much as proceeding with business-as-usual.

One way in which people in two North American cities are exploring and engaging with "other" plants animals and spaces is raising awareness of "wild" patches where plants (and the animals they support) are already growing and thriving in urban environments. In Montréal, Quebec the Wild City Mapping project is raising awareness for the city's "wild" spaces in the hopes that people will not only appreciate that they exist, but also form a coalition for preservation of such spaces in circumstances when that is feasible. The project's founders describe themselves as a "collective of visual and media artists, mapping enthusiasts, wilderness lovers and tech geeks" interested both in people's direct experience of wild spaces in Montréal as they presently exist as well as fostering community ownership of such spaces. The project also plays with time, documenting memories of wild or once-wild spaces - the collective memory of them - and how they have changed over time, or people's visions for places that might become "wild" in the future. According to founding member Maia Iotzova, "the overarching goal for the project is to bring the existence of these spaces to the forefront of the consciousness of the city" (lotzova 2019). While explicitly about mapping "wild" places, in some ways the Wild City Mapping project is an effort at "un-wilding" in that it applies typical planning practices such as measuring, documenting, and mapping but in a subversive way, to map and document the "other" in an effort to bring it to a similar level of consciousness of other more formally sanctioned places and materials. To create a "wild city map" is to acknowledge the presence, prior and continued, of heterotopic spaces and species in the coconstituting of city life, whether or not accepted or cared for by a large number of people. A similar effort

that received a 2015 American Society of Landscape Architects Honor Award is David Seiter's Spontaneous Urban Plants. Seiter conducted an extensive crowd-sourced research project to document the presence and perception of spontaneous plants, particularly in New York City. The project is intended to "stimulate discourse between ecologists, designers, artists and the general public that explores societal perceptions of weeds and questions the stigmas that surround them" (American Society of Landscape Architects 2015). This project, and the website and book produced from it and the honors it received have done some critical work in order to raise consciousness and give vocabulary and life to people's interactions with heterotopic plants and places existing in daily environments in the city, one with the power to inspire expanded future efforts and to capture human relationships with heterotopic plants at a specific moment in time. With efforts such as Wild City Mapping and Spontaneous Urban Plants underway, it is clear that people in contemporary cities, as others have been before them, are aware of and considering previously "undesirable" species and places as potentially valuable parts of urban life, but these efforts to date are still exceptional and a bit outside the conventional urban planning and design milieu.

Given that present action and ideas around observing, recording, and preserving "wild" places and things in unexpected places in cities is primarily grassroots, what might it mean to shift city planning and design practices more resolutely towards embracing relational cities? One specific way this might take shape is through a wholesale reinvention of the spaces in cities, for example in Washington, that are manicured as lawn. If in every case present practices were re-visited, places like median strips, vacant lots, stretches of park land, and residential properties might become more interesting to both people and animals and less costly and wasteful to maintain. The idea of neatly maintained lawn is inked in pen in American design and popular culture, but requires a great deal of physical effort and often unrenewable fuel and chemicals to produce. Often people do not even realize the cost and intensiveness of labor that is required to maintain lawn throughout the city, which occupies nearly one quarter of private urban land cover alone (Robbins and Sharp 2006, 107). Lawns are a kind of expected default and without them, a

new type of city experience might emerge, albeit through a fair amount of panic in the face of the dissonance between people's expectations and new material conditions on the ground.

This would represent a significant departure from current models which delineate and define "nature" as existing primarily in parks and gardens, towards an increased sensitivity to materials, flows, and potentials throughout the entire city and beyond. One vital shift would be from assuming all sites can and should be cleared into blank slates to creatively finding connections between existing or potential nonhuman material and habitat and human goals, ends, and means. What might this look like in practice? When consulting the "community" with vested interest in any particular project or plan, planners and designers might expand the idea of community to include past, present, and future nonhuman inhabitants of neighborhoods and regions. In the vein of Ian McHarg's layering techniques and Lawrence Halprin's exquisitely detailed site explorations, we as planners and designers might look even more closely at sites, neighborhoods, and cities on the whole to understand current and possible connections between human and nonhuman. The onus need not be entirely on planners themselves: often local residents are incredibly well informed about the ways water flows (supporting life), the types of plants that grow and where, the types of animals that appear and when and a myriad of other details not obvious to an outsider. These sorts of questions and answers might be included in community meetings, charrettes, and surveys already underway, or perhaps even better through casual conversation when otherwise occupied with something else. Site plans might better account for some of this hyper-local knowledge, and perhaps preservation practices might be adopted to include more than just precious hundred-year-old trees but also those plants and habitat conditions that support other kinds of life and experience. Ultimately plant lists and "wildlife" slated for protection might be reconsidered to include species outside of those presently considered precious, and plans might account more broadly for the energetic and aesthetic (in the broadest sense of the term) possibilities of incorporating and preserving more than human-planted and tended plants and animals.

Future Research

As with any project, this one is merely a starting point for a great many future research directions. There are three important ways in which my future research will build on the work herein: deepening the findings here with expanded cities and time periods; expanding methodological approaches into diverse and creative realms, and using the themes and ideas developed here as starting points for developing new themes and directions. Concurrently with branching out in these three directions, I plan to publish the chapters herein as separate articles in three distinct peer-reviewed academic journals. I am presently preparing "Vocabularies of Urban Nature in Planning" for submission to the *Journal of Planning Literature*, and two additional substantive chapters are in full draft form and will be ready for submission during the coming academic year. These include submitting "Regulating Weeds" to the *Journal of Planning History* and "Environmental Discourses of Animal Protection and Destruction in Washington, D.C." to the *Journal of the American Planning Association*.

As for deepening the present study's findings, the District of Columbia like every city is a unique case in many ways, so future research will explore attempts to regulate wildness in a variety of other urban settings. First and most timely will be studies of American "legacy" cities regulating wildness, cities such as Detroit, Cleveland, Buffalo, and Baltimore, where early twenty-first century conditions contrast sharply with recent human history, and heterotopic plants and animals occupy a much larger proportion of the urban fabric and the urban experience, creating places in which dichotomous constructions of "wild" and "city" are viscerally untenable, both in material form and in the cultural imaginary of these cities. Other projects will include studies of different time periods, including both earlier and later than the cases herein. Work reaching earlier in human history might not be investigations of regulations per se in the way we know them today, but rather might examine evidence of the ways in which humans in earlier times organized, delineated and categorized plants and animals as they crafted early cities. Projects spanning the twentieth century might further develop themes only touched on in this work, such as for example issues around chemical use and weeds and the status and perception of efforts

to rid cities of certain animals such as feral cats. Geographic expansion beyond the United States context will also considerably deepen and add greater context to the findings of this study, supporting overall generalizability: while some related research exists in European and Australian contexts, there is little present work and much to learn from urban regulations and planning structures in cities in Asia, the Middle East, South America and Africa. Comparative studies between U.S. cities and international cities will also better draw out what makes the American context unique as well as commonalities. Perhaps the city in the world with the most to learn from in this area, as discussed above, is Berlin, Germany, so this would be a fruitful place to start, but understanding planning and regulatory practices towards heterotopic plants and animals in cities of note in less-studied countries and continents would provide even more in terms of generalizing and expanding the impact of this work.

This work has also inspired future investigation of the ways urban nature discourses in multiple fields influence planning theory and practice, extending theoretical and historical work into different methodological realms, including investigating present-day on-the-ground perceptions of heterotopic urban plants and animals. I am particularly interested in investigating changing perceptions and visions of "urban nature" in places that have undergone significant population and infrastructure change in the last few decades, and what perception and understanding of these new configurations can bring to the dialogue and discourse about urban and environmental planning for natures and the people who live with them more generally. One important thread I would like to build on is methodological collaboration with researchers and practitioners in related fields, chiefly landscape architecture and environmental sciences. My collaboration with landscape architects for this project involved primarily visualizing ideas and concepts, but this type of partnership could take many other forms and present a variety of interesting possibilities for future research. I can imagine collaborative methods that might make use of drawings produced by landscape architects and artists that might evoke present and future possibilities that research participants might rate on factors such as preference. Information and materials developed in collaboration with various environmental scientists, including botanists and wildlife scientists, might also provide fodder for research initiatives that might serve simultaneously for gathering empirical evidence as

well as raising consciousness and awareness of the plant and animal life and potential for such life in cities. Other methodological directions, perhaps also in combination with collaborations such as those described above might involve the use of methods such as Visitor Employed Photography and audio-recorded narrative journaling to understand what research participants "see" and experience of heterotopic urban plants and animals in their day-to-day lives, whether at specific sites or along daily routes, investigations using camera traps to capture urban animals and human interactions with them, methods in which people walk along transects and visually and auditorily document and record perceptions of plants and animals existing in the city, and Visual Preference Surveys of a variety of different habitats and plant-animal-human configurations (likely created from research collaborations with landscape architects and environmental scientists) that might start to chart visions for future cities.

In addition to deepening the work herein and expanding methodologies, future research will also build on the themes presented here to explore related ideas but with new trajectories. One important thread is further study of domestic plants and animals, including garden plants, house pets, and animals domesticated for production of material for human consumption and use. Often overlooked in discourse about planning for plants and animals in cities, domestic plants and animals are omnipresent and intricately woven in the relational web of urban life. To use Washington, D.C. as an example, some regulations exist in the city such as zoning laws permitting some types of domestic animals and plants, most recently and notably the legalization of up to six marijuana plants in one's yard (District of Columbia Metropolitan Police Department 2018). While residents are not legally allowed to sell marijuana grown on their properties, products of other types of plants and small animals such as honeybees are permitted under the zoning code (District of Columbia Office of Zoning 2018). The District's animal control regulations require domestic dogs to be kept on a leash no longer than four feet while in any public space other than a dog park (Government of the District of Columbia 2018). While this evidence from the District of Columbia indicates some planning and regulatory efforts address domestic plants and animals to varying degrees, there is a definitive blank spot in the discourse regarding domestic plants and animals. While the Weed Removal Act (1899) addressed private property, the chief

concern was with undesired plants that grew without human intent or care. While the McMillan Plan expressed preference for order and simplicity which ostensibly extended to domestic plants as well, the primary emphasis of this and many subsequent plans for the city is on the public spaces, most especially the ceremonial core of the city. The Wildlife Protection Act (2010) is explicitly concerned with nondomesticated animals, and exempts domesticated animals from its purview, and the Wildlife Action Plan (2015) only mentions domestic animals to express displeasure for domestic dogs' trampling of "nature" areas in the city and domestic cats' killing of song birds. Although perhaps Americans as a culture generally are averse to regulation of private property, some such regulation of domestic plants and animals does exist, and will provide fruitful material for future investigation and comparison.

Other projects inspired by this project's material and geographic location but taking a slightly different direction are additional relational investigations of Washington, D.C.'s attempts to regulate wildness throughout the city's history, in one case through the re-making of the Anacostia River immediately prior to the turn of the twentieth century, in another the city's decades-long struggle to wage "war" on the ever-increasing rat population. Although it was a significant transformation, there is very little written about the late-nineteenth century dredging of the Anacostia river and the ways in which this effort, guided by the thinking of the time, negated a lot of the existing "nature" that had emerged in relationship with human activity over hundreds of years in favor of a new configuration with far-reaching implications that are still felt in the city today. Another relational historical analysis with abundant evidence waiting to be explored is the history of the District of Columbia's "War on Rats" which has been waged for decades with significant promotional materials and efforts, but without the total annihilation promised. This investigation will draw on relational theories to understand how intimately connected rodents are with human activity in cities, and, using Washington, D.C. as an example, suggest ways in which re-envisioning the relationship between humans and undesirable animals such as rats offers incentive for changes to planning practice and the practice of everyday life. Still other projects inspired by this one include deeper linguistic and theoretical analyses of language used to talk about "weeds" and "wildlife" in cities; this might take the form of analyzing contemporary planning documents, newspaper

articles, speeches, real estate advertisements and other communications. Finally, another set of projects will look at contemporary planning practices for urban vegetation, for example for the types and configurations of plants required and used to create urban rain gardens and stormwater catchments. This work will build evidence in order to understand the historical and theoretical implications of plant selection and arrangement, and how these codify and perpetuate certain approaches to plant selection and deployment in support of sustainability and resilience goals but in opposition to sensitivity to local conditions and site-specific and neighborhood-specific nuanced landscape practices that might achieve similar goals with less of a "colonial" approach to urban planting.

Each of these future projects builds on the work herein in important ways, and while I have outlined three major areas of contribution (further developing the present content into new geographies and times, expanding and deepening methods, and using this project as a springboard for new and varied topical exploration), these are not necessarily mutually exclusive and future projects will likely have a combination of each of these approaches. My ultimate goal is to question, critique, and theorize about the ways in which re-thinking urban "nature" and urban "wildness" through the lens of embracing heterotopic plants and animals as important participants in city life contributes to more sensitive, interesting, sustainable, resilient, and colorful places. Embracing the non-human "other" has the potential to teach us a lot about what exactly we are planning for and how both humans and non-humans fit together and complement one another (or not). My future research will continue to develop the ideas set forth here about the need to imagine and construct relational cities, in the hope that in the years to come my work will develop considerable evidence in favor of more nuanced, thoughtful, and creative approaches to incorporating plants and animals into city life.

Embracing Entanglement

Rather than planning separately for "nature" in certain places and not in others, and carefully curating particular plants and animals to inhabit the city with humans, how might we plan and make policies to support cities with a more holistic, relational way of planning for and managing the plants and

animals that inhabit cities with us? One key undercurrent in this work is the idea that once we acknowledge the interrelatedness between non-human and human inhabitants of cities, it becomes clear that living with and embracing the "other," in this case plants and animals humans might typically avoid or set out plans and policies to kill, is part of the practice of being human. There are few to no scenarios in which unwanted plant and animal life does not factor or figure in to the life of cities; the question becomes how to live in ways that embrace this understanding throughout the city, and not just relegate undesirable plants and animals out of cities entirely or as often occurs in practice to parts of the city where people are unable to afford to pay to be rid of them. The examples of the McMillan Plan and Washington's Weed Removal Act, Wildlife Protection Act, and Wildlife Action Plan are each predicated on notions of dichotomies between human and nature, which explicitly or not reference deeply rooted power structures with lineage tracing back at least to colonial attempts to control and re-make American land in the image of European ideals. The projects of making nature subordinate to and supporting powerful architecture, of removing weeds from city lands, and of protecting certain animals which are precious to humans while killing many animals that are not are all deliberate choices that carry implicit assumptions about the value and worth of specific plants and animals, assumptions largely untested or questioned in their respective times and places in the making of the plans and regulations. Putting the plans and regulations into practice reveals the impossibility of utopic visions where only clean and perfect plants and animals frolic with humans in neat and orderly cities, and the discourses following the weed and wildlife regulations provide perhaps the most convincing evidence of how heterotopic plants and animals continue to assert themselves despite human intentions to be rid of them. If the field of planning were to significantly increase understandings and practice of deep relationality between human and nonhuman in cities, this would reduce the degree to which planning hinges on the need to control plants and animals to reassert singularly human ideas and ideals, and create a more sensitive and nuanced approach to clearing and re-making sites, managing human construction and building practices, and strengthening connections within and beyond the city.

One important way this would manifest in practice is a departure from the common sites of planning: the planning office, the meeting room, the community meeting hall, the city council chambers, into the material realm of lived space. In order to plan for the future of a place, it is vital to be intimately in touch with the activity of the present, not just the human activity and opinions, but the physical material plants and animals on the ground, the way things smell and feel and look. So often, windshield surveys and site visits are a very small percentage of the time people spend on planning; a planning practice more sensitive to relationality would find practitioners and residents outside more, interacting with people, plants, animals and things in ways that would teach them much more than they can learn staring at spreadsheets and aerial views. This is not to refute the value of Excel and GIS in planning. particularly at the scales of city, region, and beyond, but to call into question their dominance and the degree to which these tools have become the things planners are in conversation with, the way planners make sense of the world, and in turn have started to shape the world more meaningfully than the material that exists on the ground. What if there was no central planning office, but neighborhood planners actually living in and among each neighborhood, experiencing material day-to-day affairs, and coming together in each space periodically, so that each planner was a sort of resident-expert with intimate ties to other human and nonhuman residents, and sharing insights gained with planners from other neighborhoods as they also met and explored a different neighborhood on the ground every week or month? What if the practice of planning was actually a practice of deeply engaging with and knowing a place, and striving to understand how that place fits into the larger picture, and how various changes might affect each neighborhood as well as the whole place? This deeply engaged knowing, sharing, and learning would be very different from present practices in which planning professionals are often disconnected from the places they plan for, work increasingly in isolation at computer screens, and learn "best practices" from "out there" to apply to places they may know very little about. While this vision is certainly radical and utopic in its own way, the cases studied herein establish an imperative to more deeply understand and make connections to place, particularly the nonhuman elements of place.

Another undercurrent that this type of shift challenges is the capitalistic "growth machine" assumption implicit in contemporary urban planning and development (Molotch 1976). A relational city is not one in which growth and financial gain are prized above all other objectives, which runs counter to the discourse and practice of planning and city-making as practiced in United States cities today. Making space for and taking time to engage with heterotopic plants and animals requires a different approach, one with a more relational interconnected view of the value of nonhumans, and this type of approach most likely would be more costly and time intensive than one in which the financial bottom line is the guiding principle. Heterotopic species and some human residents as well might stand to gain from an approach more sensitive to existing conditions and connections, particularly one in which development practices take more time and are perhaps more thoughtful about the ways in which flows of people, plants, animals and things do and could continue to blossom and strengthen. This alternative approach to time is evident in the "just green enough" strategy for development related to urban nature, in which Winifred Curran and Trina Hamilton describe improvements made to a neighborhood in the Bronx without completely transforming it into a desirable and "amenity-laden" place, which allowed existing residents to have longer tenure and more stability, despite a slow influx of people moving in. One of the strategies they promoted was to ensure retention of manufacturing jobs proximate to the neighborhood. Rather than "cleaning up" their neighborhood to make it into something flashy and new, they sought to create small interventions, such as a designated path along the water, that would allow neighbors to more easily be outside and enjoy what the area had to offer, but not without views of industrial processes and even waste streams. In this way, the neighbors felt they would be able to make "just enough" improvements to their environment without sacrificing affordability and attracting scores of investment and new money that would fundamentally alter what they saw as their neighborhood's unique character. Another aspect of the "just green enough" strategy, at least as it emerged in this particular neighborhood, was that the influx of new residents was relatively slow, which led to a fairly strong alliance between the "new" residents and the "old" ones. In this way, the concerns of the people who had been living there a long time also became concerns of the new residents, who came to identify with their neighbors and their neighbors' points of

view. This type of slower approach to implementing change, rather than big changes virtually overnight that are hard to reverse, might pose a more sensitive approach to development and change, possibly even one in which changes would "stick" more readily and be longer lasting for humans and nonhumans cocreating the city together.

Places of entanglement between heterotopic plants and animals and human artifacts, when one notices them, have the potential to bring human fragility, hubris, and mortality to mind. This enhances the complexity and mystery of urban life, and suggests a role for non-human agency in the making of cities and natures (Beauregard 2012; Kinder 2011). Further, these entanglements symbolize inescapable connections between human action and natural succession that are present throughout the world (both in cities and further afield), but sometimes hard to see (Marris 2011). Unlike human impacts on remote "wilderness," connections between human activity and vegetative growth and animal presence or lack thereof are made obvious and brought to the fore in urban environments where there is an abundance of people and where people are often walking (out of their cars, on city streets). Michel de Certeau offers a re-orientation towards understanding not just official plans and the "plannerly view from above," but also reading traces in the environment that help one understand the way people actually move about and operate in urban space, and the ways in which this, too, is part of the larger discursive narrative (Certeau 2011). Certeau explains a practice called *la perruque*, which he describes as a form of resistance to various strains of power and control, and suggests that this evidence of how life is actually lived day-today reveals how people create their own meaning despite and because of systems of control imposed on them. A closer look at plants and animals that inhabit city streets, alleys, yards, rooftops, parks, and "other" places suggests that they also practice *la perruque*, resisting attempts to control or eliminate them, and revealing human practices that support their existence in cities. John Hadidian, formerly with the Washington Humane Society and an advocate of the 2010 District of Columbia Wildlife Action Plan raises a provocative question that undermines these attempts to control and eliminate heterotopic urban species, and imagines a future in which very different relations than present ones dominate:

The rise of genetically distinct urban life forms is near, if not already here, and once fully acknowledged will challenge some of the fundamental assumptions we make about the conservation and protection of nonhuman life. What will we do when the "pest" animals and plants we now focus sometimes Draconian control efforts on have to be redefined from feral, invasive and exotic to scarce, unique and special? (Hadidian 2018)

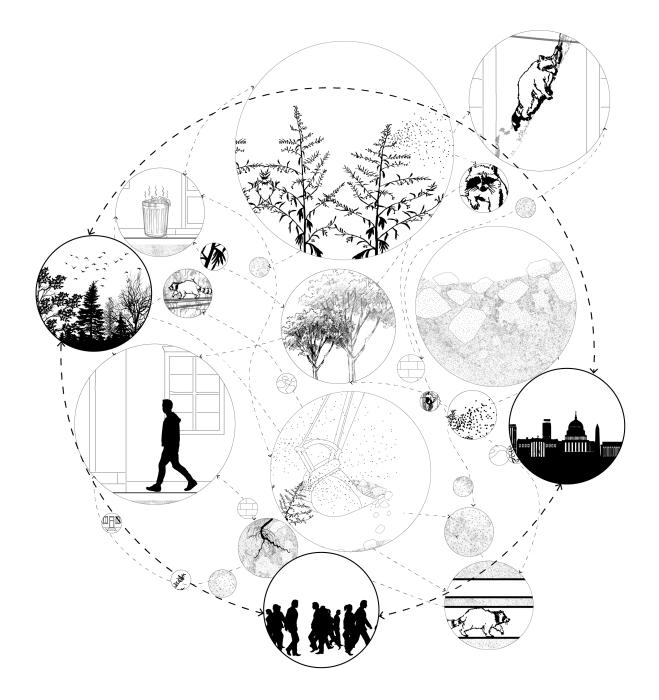
Hadidian's words underscore the temporality of definitions and discourse often assumed to be "common sense." His description of the evolution of present "pest" animals from "feral" to "special" imagines a significant paradigm shift, one in which we embrace new ways of seeing and new modes of practice. This also challenges the rootedness of ideas around which the McMillan Plan, Weed Removal Act, Wildlife Protection Act, and Wildlife Action Plan are based on, of particular species and configurations as "disagreeable," "nuisance," and "pests" – Hadidian frames all of these as socially and culturally rooted, not moored in some higher or more "right" way of thinking.

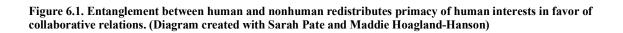
Embracing a wider variety of nonhuman life, and recognizing the inextricable ways that human and nonhuman are always already interconnected both acknowledges existing and future relations and fosters a sense of curiosity and wonder about the way things are now, how they came to be that way, and what creative ways we can support collaboration between human and nonhuman visions and action and deemphasize top-down human-dominant power and control. Relational cities materially engaged with a great variety of nonhumans will be far more interesting places for the increased collaboration between humans and nonhuman. Cities planned and built entirely in the image of humans are boring, and quite often become strikingly similar to one another in their sameness and continued habit of importing materials and ideas from one another. This is not to argue for a city created in a "bubble" without any relationship to the outside world, but for a city that deeply knows itself, and emerges in collaboration with all of the people, nonhumans, and things it is exposed to and is part of. The first step towards a relational city is acceptance and embracing the entanglement of humans, nonhumans, and things in making the city, and a commitment to reducing the degree to which human affairs and ideals are the singular guiding factor and force in creating and maintaining city spaces and species (Figure 6.1).

Grappling with and embracing the messiness and complexity of human/nonhuman entanglement as part of our everyday experience of urban natures has the potential to move humans individually and collectively from "egocentric" to "biocentric" orientations (Meyer 2015). This complicates overly simplistic understandings of the meaning and potential of "nature" and "beauty" and the range and power of multi-sensory aesthetic experience as part of urban life (Meyer 2015; Brouwer, Mulder, and Spuybroek 2012). Along with this, Owens and Wolch argue convincingly that new ways of seeing and understanding wildness and nature will necessitate re-configured human priorities:

The intersection of wildlife and urbanization will require new cultural and ethical frameworks. These may include a more nuanced ethics for rewilding and ecological restoration, as well as the expanding notions of environmental justice, gentrification and the right to the city beyond the domain of the human, to incorporate animals who share our urban environments (Owens and Wolch 2018).

These arguments are all tending toward a vision in which cities are not utopias, but expand present limited notions of the types of animals and plants that have a "right to the city." What might it mean to plan with and for heterotopic plants and animals, inviting natural succession and non-human agency in to processes presently idealizing human intentionality? This will not be a simple addition, but a slow and steady shift to a more relational and holistic practice, a practice of living and working with heterotopic "others". As Steve Hinchliffe and Sarah Whatmore attest in their widely cited "Living Cities": "nonhumans don't just exist in cities, precariously clinging to the towers and edifices of modernity, but potentially shape and are shaped by their urban relations" (Hinchliffe and Whatmore 2006, 127). The plants and animals we live with and among are more than the weedy and heterotopic definitions we assign them: they are our co-conspirators in making and re-making both material and social constructions of "the city," and the more we acknowledge and embrace this, through planning, regulation, and shifting mindsets, the more ethically sound, interesting and lively our lived experience will become.





Works Cited

- Abbott, Carl, and Joy Margheim. 2008. "Imagining Portland's Urban Growth Boundary: Planning Regulation as Cultural Icon." *Journal of the American Planning Association* 74 (2): 196–208.
- Affolderbach, Julia, and Christian Schulz. 2016. "Mobile Transitions: Exploring Synergies for Urban Sustainability Research." *Urban Studies* 53 (9): 1942–57. https://doi.org/10.1177/0042098015583784.
- Alberti, Marina. 2015. "Eco-Evolutionary Dynamics in an Urbanizing Planet." *Trends in Ecology & Evolution* 30 (2): 114–26. https://doi.org/10.1016/j.tree.2014.11.007.
 - 2016. "Eco-Evolutionary Dynamics in Urbanizing Regions: Empirical Observations and Implications for Planning." In *PLANNING: Practice, Pedagogy, and Place: 56th Annual Conference.* Portland, Oregon: Association of Collegiate Schools of Planning.
- American Society of Landscape Architects. 2015. "Spontaneous Urban Plants." 2015. https://www.asla.org/2015awards/96909.html.
- Anderson, Edgar. 1952. *Plants, Man and Life*. Boston: Little, Brown and Company. https://babel.hathitrust.org/cgi/pt?id=mdp.39015063990132;view=1up;seq=7.
- Angelo, Hillary. 2016. "From the City Lens toward Urbanisation as a Way of Seeing: Country/City Binaries on an Urbanising Planet." *Urban Studies*, February, 1–21. https://doi.org/10.1177/0042098016629312.
- Austermuhle, Martin. 2012a. "Cuccinelli Uncovers Our Massive D.C. Rat Smuggling Ring." DCist. January 12, 2012. http://dcist.com/2012/01/_cuccinelli_well_i_saw.php.
- . 2012b. "Cuccinelli Stands Ground on D.C. Rats." The Washington Post, January 20, 2012.
- Beatley, Timothy. 2011. *Biophilic Cities Integrating Nature into Urban Design and Planning*. Washington, DC: Island Press.
- Beauregard, Robert A. 2012. "Planning with Things." *Journal of Planning Education and Research* 32 (2): 182–90. https://doi.org/10.1177/0739456X11435415.
- ------. 2015. Planning Matter: Acting with Things. Chicago: The University of Chicago Press.
- ------. 2016. "When Planners Sleep." In *PLANNING: Practice, Pedagogy, and Place: 56th Annual Conference*. Portland, Oregon: Association of Collegiate Schools of Planning.
- Blok, Anders. 2018. "Planning Ecologies." In *Relational Planning Tracing Artefacts, Agency and Practices*, edited by Monika Kurath, Marko Marskamp, Julio Paulos, and Jean Ruegg, 259–82. Palgrave Macmillan. //www.palgrave.com/us/book/9783319604619.
- Borgström, Sara T. 2009. "Patterns and Challenges of Urban Nature Conservation—A Study of Southern Sweden." *Environment and Planning A* 41 (11): 2671–85. https://doi.org/10.1068/a41312.
- Brouwer, Joke, Arjen Mulder, and Lars Spuybroek. 2012. *Vital beauty: reclaiming aesthetics in the tangle of technology and nature*. Rotterdam: V2 Pub.: NAI.

- Campbell, Scott. 1996. "Green Cities, Growing Cities, Just Cities?" *Journal of the American Planning Association* 62 (3): 296.
- Carpenter, Laura M. 2002. "Analyzing Textual Material." In *Handbook for Conducting Research on Human Sexuality*, 327–43. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Casey Trees. 2018. "Our Story." Casey Trees. 2018. https://caseytrees.org/about-us/.
- Certeau, Michel de. 2011. "Walking the City." In *The Practice of Everyday Life*, translated by Steven F. Rendall, 1984. Third Ed, 156–63. University of California Press.
- Chakrabarty, Dipesh. 2015. "Reading Latour in the Antropocene." presented at the Recomposing the Humanities Conference with Bruno Latour, University of Virginia, September 18.
- Charmaz, Kathy. 2014. *Constructing Grounded Theory*. 2 edition. London ; Thousand Oaks, Calif: SAGE Publications Ltd.
- Clément, Gilles. 2003. "The Third Landscape." Gilles Clément. 2003. http://www.gillesclement.com/art-454-tit-The-Third-Landscape.
- Cook, Ian R., and Erik Swyngedouw. 2012. "Cities, Social Cohesion and the Environment: Towards a Future Research Agenda." *Urban Studies* 49 (9): 1959–79. https://doi.org/10.1177/0042098012444887.
- Corbin, Carla I. 2003. "Vacancy and the Landscape: Cultural Context and Design Response." *Landscape Journal* 22 (1): 12–24.
- Cosgrove, Denis. 2008. "Images and Imagination in 20th-Century Environmentalism: From the Sierras to the Poles." *Environment and Planning A* 40 (8): 1862–80. https://doi.org/10.1068/a40226.
- Council of the District of Columbia. 1977. Nuisance Elimination Act of 1976. D.C. Law 1-128.
 - -----. 2009. *Bill 18-498, the "Wildlife Protection Act of 2009."* Washington, D.C. https://www.youtube.com/watch?v=GkjDpW0ZB_Q&feature=youtu.be.
 - ———. 2011. "Councilmember Cheh Laments the State of Public Discourse." Press Release. Washington, D.C.: Office of Councilmember Mary M. Cheh, Ward 3.
- ------. 2017. Weeds and Plant Diseases. 8-3. https://beta.code.dccouncil.us/dc/council/code/titles/8/chapters/3/.
- Council of the District of Columbia Committee on Government Operations and the Environment. 2010. "Report on Bill 18-498, the 'Wildlife Protection Act of 2010.""
- Cowell, Richard, and Huw Thomas. 2002. "Managing Nature and Narratives of Dispossession: Reclaiming Territory in Cardiff Bay." *Urban Studies* 39 (7): 1241–60. https://doi.org/10.1080/00420980220135581.
- Cronon, William. 1995a. "The Trouble with Wilderness; or, Getting Back to the Wrong Nature." In *Uncommon Ground: Toward Reinventing Nature*, edited by William Cronon, 69–90. New York: W.W. Norton & Company.
- ——. 1995b. Uncommon Ground: Toward Reinventing Nature. W.W. Norton & Company.

- Crosby, Alfred W. 2004. *Ecological Imperialism: The Biological Expansion of Europe, 900-1900.* 2nd edition. Cambridge ; New York: Cambridge University Press.
- Daniels, Thomas L. 2009. "A Trail Across Time: American Environmental Planning From City Beautiful to Sustainability." *Journal of the American Planning Association* 75 (2): 178–92. https://doi.org/10.1080/01944360902748206.
- Davoudi, Simin, Keith Shaw, L. Jamila Haider, Allyson E. Quinlan, Garry D. Peterson, Cathy Wilkinson, Hartmut Fünfgeld, Darryn McEvoy, Libby Porter, and Simin Davoudi. 2012. "Resilience: A Bridging Concept or a Dead End? 'Reframing' Resilience: Challenges for Planning Theory and Practice Interacting Traps: Resilience Assessment of a Pasture Management System in Northern Afghanistan Urban Resilience: What Does It Mean in Planning Practice? Resilience as a Useful Concept for Climate Change Adaptation? The Politics of Resilience for Planning: A Cautionary Note: Edited by Simin Davoudi and Libby Porter." *Planning Theory & Practice* 13 (2): 299–333. https://doi.org/10.1080/14649357.2012.677124.
- DeBonis, Mike. 2012. "D.C. Rat Concerns Spread to Baltimore County." *The Washington Post*, January 20, 2012.
- Del Tredici, Peter. 2010a. "Spontaneous Urban Vegetation: Reflections of Change in a Globalized World." *Nature and Culture* 5 (3): 299–315.

———. 2010b. *Wild Urban Plants of the Northeast: A Field Guide*. Ithaca: Cornell University Press. http://search.lib.virginia.edu/catalog/u5221265.

——. 2014. "The Flora of the Future: Celebrating the Botanical Diversity of Cities." Places Journal. 2014. https://placesjournal.org/article/the-flora-of-the-future/.

- Demeritt, David. 2002. "What Is the 'Social Construction of Nature'? A Typology and Sympathetic Critique." *Progress in Human Geography* 26 (6): 767–90. https://doi.org/10.1191/0309132502ph402oa.
- Dewey, Lyster. 1899. "Weeds in Cities and Towns." In *Yearbook of the United States Department of Agriculture*, by United States Department of Agriculture, 193–200. U.S. Government Printing Office.
- District of Columbia Board of Health. 1899. "Report of the Commissioners of the District of Columbia, Volume 3: Report of the Health Officer."

------. 1900. "Report of the Commissioners of the District of Columbia, Volume 3: Report of the Health Officer."

- ——. 1902. "Report of the Commissioners of the District of Columbia, Volume 3: Report of the Health Officer."
- ——. 1903. "Report of the Commissioners of the District of Columbia, Volume 3: Report of the Health Officer."
- ———. 1906. "Report of the Commissioners of the District of Columbia, Volume 3: Report of the Health Officer."
- . 1908. "Report of the Commissioners of the District of Columbia, Volume 3: Report of the Health Officer."

- District of Columbia Metropolitan Police Department. 2018. "The Facts on DC Marijuana Laws | Mpdc." Government. DC.Gov. 2018. https://mpdc.dc.gov/marijuana.
- District of Columbia Office of Zoning. 2018. "Agriculture, Residential | DC Zoning Handbook." 2018. http://handbook.dcoz.dc.gov/use-categories/agriculture-residential/.
- District of Columbia Water and Sewer Authority. 2017. "Clean Rivers Project." DC Water Is Life. 2017. https://www.dcwater.com/clean-rivers-project.
- Draus, Paul, and Juliette Roddy. 2018. "Weeds, Pheasants and Wild Dogs: Resituating the Ecological Paradigm in Postindustrial Detroit." *International Journal of Urban and Regional Research* 42 (5): 807–27. https://doi.org/10.1111/1468-2427.12627.
- Duempelmann, Sonja. 2009. "Creating Order with Nature: Transatlantic Transfer of Ideas in Park System Planning in Twentieth-century Washington D.C., Chicago, Berlin and Rome." *Planning Perspectives* 24 (2): 143–73. https://doi.org/10.1080/02665430902734277.
- Edensor, Tim. 2005. Industrial Ruins: Space, Aesthetics and Materiality. New York: Berg 3PL.
- Edwards, Gareth A. S. 2013. "Shifting Constructions of Scarcity and the Neoliberalization of Australian Water Governance." *Environment and Planning A* 45 (8): 1873–90. https://doi.org/10.1068/a45442.
- Ernstson, Henrik, and Sverker Sörlin. 2009. "Weaving Protective Stories: Connective Practices to Articulate Holistic Values in the Stockholm National Urban Park." *Environment and Planning A* 41 (6): 1460–79. https://doi.org/10.1068/a40349.
- Fainstein, Susan S. 2005. "Planning Theory and the City." *Journal of Planning Education and Research* 25 (2): 121–30. https://doi.org/10.1177/0739456X05279275.
- Falck, Zachary J. S. 2002. "Controlling the Weed Nuisance in Turn-of-the-Century American Cities." *Environmental History* 7 (4): 611–31. https://doi.org/10.2307/3986061.
 - ———. 2011. *Weeds: An Environmental History of Metropolitan America*. First edition. Pittsburgh, Pa: University of Pittsburgh Press.
- *Federal Aid in Wildlife Restoration Act.* 1937. *16 USC 669*. http://uscode.house.gov/view.xhtml?req=(title:16%20section:669%20edition:prelim).
- Flyvbjerg, Bent. 2006. "Five Misunderstandings About Case-Study Research." *Qualitative Inquiry* 12 (2): 219–45. https://doi.org/10.1177/1077800405284363.
- Forsyth, Ann. 1997. "Five Images of a Suburb." Journal of the American Planning Association 63 (1): 45.
- Foucault, Michel. 1965. *Madness and Civilization; a History of Insanity in the Age of Reason*. New York,: Pantheon Books.
- ———. 1970. *The Order of Things: An Archaeology of the Human Sciences*. New York: Random House, Inc.
- . 1984. "Of Other Spaces, Heterotopias." Architecture, Movement, Continuité 5: 1-9.

- Fu, Albert. 2016. "Neoliberalism, Logistics and the Treadmill of Production in Metropolitan Waste Management: A Case of Turkish Firms." Urban Studies 53 (10): 2099–2117. https://doi.org/10.1177/0042098015586537.
- Gandy, Matthew. 2013. "Marginalia: Aesthetics, Ecology, and Urban Wastelands." *Annals of the Association of American Geographers* 103 (6): 1301–16.
- ———. 2015. "From Urban Ecology to Ecological Urbanism: An Ambiguous Trajectory." Area 47 (2): 150–54. https://doi.org/10.1111/area.12162.
- Gleeson, Brendan. 2008. "Critical Commentary. Waking from the Dream: An Australian Perspective on Urban Resilience." *Urban Studies* 45 (13): 2653–68. https://doi.org/10.1177/0042098008098198.
- Government of the District of Columbia. 2010. Wildlife Protection Act of 2010. 8-2201.
 - ——. 2018. District of Columbia Municipal Regulations for Animal Control. Title 24 Chapter 9 Animal Control.
- Government of the District of Columbia, Department of Energy and Environment. 2015. "District of Columbia Wildlife Action Plan: A Conservation Strategy for Washington, D.C." https://doee.dc.gov/service/2015-district-columbia-wildlife-action-plan.
- Government of the District of Columbia, Department of the Environment, Fisheries and Wildlife Division. 2006. "District of Columbia Wildlife Action Plan." https://doee.dc.gov/SWAP2006.
- Graham, Stephen, and Patsy Healey. 1999. "Relational Concepts of Space and Place: Issues for Planning Theory and Practice." *European Planning Studies* 7 (5): 623.
- Griffiths, Huw, Ingrid Poulter, and David Sibley. 2000. "Feral Cats in the City." In Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations, edited by C. Philo and C. Wilbert, 56–70. London and New York: Routledge.
- Gutheim, Frederick, and Antoinette J. Lee. 2006. *Worthy of the Nation: Washington, DC, from L'Enfant to the National Capital Planning Commission*. 2nd edition. Baltimore: Johns Hopkins University Press.
- Hadidian, John. 2018. "Biophilia as Goal and Guideline in Urban Wildlife Management." Animals & Society Institute. 2018. https://www.animalsandsociety.org/public-policy/public-policy-libraries/urban-wildlife/commentary/.
- Haraway, Donna Jeanne. 2016. *Manifestly Haraway*. Posthumanities 37. Minneapolis: University of Minnesota Press.
- Harley, J. Brian. 2009. "Maps, Knowledge, and Power." In *Geographic Thought: A Praxis Perspective*, edited by George L. Henderson and Marvin Waterstone, 129–48. New York: Routledge.
- Hartig, Terry, and Urban Fransson. 2009. "Leisure Home Ownership, Access to Nature, and Health: A Longitudinal Study of Urban Residents in Sweden." *Environment and Planning A* 41 (1): 82–96. https://doi.org/10.1068/a401.
- Head, Lesley, and Jennifer Atchison. 2009. "Cultural Ecology: Emerging Human-Plant Geographies." *Progress in Human Geography* 33 (2): 236–45. https://doi.org/10.1177/0309132508094075.

- Henne, Adam. 2010. "Green Lungs: Good Firewood, Healthy Air, and Embodied Forest Politics." *Environment and Planning A* 42 (9): 2078–92. https://doi.org/10.1068/a42265.
- Hinchliffe, Steve, Matthew B. Kearnes, Monica Degen, and Sarah Whatmore. 2005. "Urban Wild Things: A Cosmopolitical Experiment." *Environment and Planning D: Society and Space* 23 (5): 643 – 658. https://doi.org/10.1068/d351t.
- Hinchliffe, Steve, and Sarah Whatmore. 2006. "Living Cities: Towards a Politics of Conviviality." *Science as Culture* 15 (2): 123–38. https://doi.org/10.1080/09505430600707988.
- Hofmeister, Sabine. 2009. "Natures Running Wild: A Social-Ecological Perspective on Wilderness." *Nature and Culture* 4 (3): 293–315.
- Horning, Audrey J. 2015. "When Past Is Present: Archaeology of the Displaced in Shenandoah National Park." Government. National Park Service. February 26, 2015. https://www.nps.gov/shen/learn/historyculture/displaced.htm.
- Horowitz, Leah S. 2013. "Toward Empathic Agonism: Conflicting Vulnerabilities in Urban Wetland Governance." *Environment and Planning A* 45 (10): 2344–61. https://doi.org/10.1068/a45591.
- Huber, Matthew T., and Jody Emel. 2009. "Fixed Minerals, Scalar Politics: The Weight of Scale in Conflicts over the '1872 Mining Law' in the United States." *Environment and Planning A* 41 (2): 371–88. https://doi.org/10.1068/a40166.
- Hultman, Johan, and Hervé Corvellec. 2012. "The European Waste Hierarchy: From the Sociomateriality of Waste to a Politics of Consumption." *Environment and Planning A* 44 (10): 2413–27. https://doi.org/10.1068/a44668.
- Ingersoll, Richard. 1996. "Second Nature: On the Social Bond of Ecology and Architecture." In *Reconstructing Architecture*, NED-New edition, 5:119–57. Critical Discourses and Social Practices. University of Minnesota Press. http://www.jstor.org/stable/10.5749/j.cttttmg1.7.
- Iotzova, Maia. 2019. "Wild City Mapping." Wild City Mapping. 2019. http://www.wildcitymapping.org/.
- Jones, Owain. 2009. "After Nature: Entangled Worlds." *A Companion to Environmental Geography*, Wiley Online Books, 294–312. https://doi.org/10.1002/9781444305722.ch18.
- Jorgensen, Anna, and Marian Tylecote. 2007. "Ambivalent Landscapes—Wilderness in the Urban Interstices." *Landscape Research* 32 (4): 443–62. https://doi.org/10.1080/01426390701449802.
- Karvonen, Andrew. 2017. "From Ecotopia to Heterotopia: Alternative Pathways to Territorialising the Environment." In *Territorial Policy and Governance: Alternative Paths*, edited by Iain Deas and Stephen Hincks, 165–84. Abingdon, Oxon; New York, N.Y: Routledge.
- Karvonen, Andrew, and Ken Yocom. 2011. "The Civics of Urban Nature: Enacting Hybrid Landscapes." *Environment and Planning A* 43 (6): 1305–22. https://doi.org/10.1068/a43382.
- Kellogg, Wendy A. 2002. "Nature's Neighborhood: Urban Environmental History and Neighborhood Planning." *Journal of the American Planning Association* 68 (4): 356–70.
- Kiley, Daniel Urban. 1991. "A Critical Look at the McMillan Plan." *Studies in the History of Art*, Symposium Papers XIV: The Mall in Washington, 1791-1991, 30: 296–303.

- Kinder, Kimberley. 2011. "Planning by Intermediaries: Making Cities Make Nature in Amsterdam." *Environment and Planning A* 43 (10): 2435–51. https://doi.org/10.1068/a4464.
- Kowarik, Ingo. 2011. "Novel Urban Ecosystems, Biodiversity, and Conservation." *Environmental Pollution* 159 (8): 1974–1983.
- Kowarik, Ingo, and Andreas Langer. 2005. "Natur-Park Südgelände: Linking Conservation and Recreation in an Abandoned Railyard in Berlin." In *Wild Urban Woodlands: New Perspectives for Urban Forestry*, by Ingo Kowarik and Stefan Körner, 287–299. Berlin: Springer. http://search.lib.virginia.edu/catalog/u5255593.
- Kühn, Norbert. 2006. "Intentions for the Unintentional Spontaneous Vegetation as the Basis for Innovative Planting Design in Urban Areas." *Journal of Landscape Architecture*, 46–53.
- Lachmund, Jens. 2013. *Greening Berlin: The Co-Production of Science, Politics, and Urban Nature*. Inside Technology. Cambridge, Mass: MIT Press.
- Latour, Bruno. 1993. *We Have Never Been Modern*. Translated by Catherine Porter. Cambridge, Mass: Harvard University Press.
 - ------. 2004. *Politics of Nature: How to Bring the Sciences into Democracy*. Cambridge, Mass.: Harvard University Press. http://search.lib.virginia.edu/catalog/u4021714.
- Lavery, Carl, Deborah P. Dixon, and Lee Hassall. 2014. "The Future of Ruins: The Baroque Melancholy of Hashima." *Environment and Planning A* 46 (11): 2569–84. https://doi.org/10.1068/a46179.
- Light, Jennifer S. 2009. The Nature of Cities: Ecological Visions and the American Urban Professions, 1920-1960. Baltimore: Johns Hopkins University Press.
- Lindsey, Greg. 2003. "Sustainability and Urban Greenways: Indicators in Indianapolis." *Journal of the American Planning Association* 69 (2): 165–80.
- Lorimer, Jamie. 2008. "Living Roofs and Brownfield Wildlife: Towards a Fluid Biogeography of UK Nature Conservation." *Environment and Planning A* 40 (9): 2042–60. https://doi.org/10.1068/a39261.
- Maat, Kees, and Paul de Vries. 2006. "The Influence of the Residential Environment on Green-Space Travel: Testing the Compensation Hypothesis." *Environment and Planning A* 38 (11): 2111–27. https://doi.org/10.1068/a37448.
- Mabey, Richard. 2010. *Weeds: In Defense of Nature's Most Unloved Plants*. First U.S. edition. New York: HarperCollins. http://search.lib.virginia.edu/catalog/u5385647.
- Marris, Emma. 2011. *Rambunctious Garden: Saving Nature in a Post-Wild World*. First U.S. edition. New York: Bloomsbury. http://search.lib.virginia.edu/catalog/u5539835.
- McCance, Erin C., Daniel J. Decker, Anne M. Colturi, Richard K. Baydack, William F. Siemer, Paul D. Curtis, and Thomas Eason. 2017. "Importance of Urban Wildlife Management in the United States and Canada." *Mammal Study* 42 (1): 1–16. https://doi.org/10.3106/041.042.0108.
- McDonnell, Mark J. 2011. "The History of Urban Ecology." In *Urban Ecology: Patterns, Processes, and Applications*, edited by Jari Niemelä, Jürgen H. Breuste, Glenn Guntenspergen, Nancy E. McIntyre, Thomas Elmqvist, and Philip James, 5–13. Oxford: Oxford University Press.

- McHoul, Alec, and Wendy Grace. 1993. *A Foucault Primer: Discourse, Power and the Subject*. Carlton, Victoria: Melbourne University Press.
- Mcintyre, N. E., K. Knowles-Yánez, and D. Hope. 2000. "Urban Ecology as an Interdisciplinary Field: Differences in the Use of 'Urban' between the Social and Natural Sciences." *Urban Ecosystems* 4 (1): 5–24. https://doi.org/10.1023/A:1009540018553.
- McKibben, Bill. 2006. The End of Nature. New York: Random House Trade Paperbacks.
- McWilliams, James E. 2011. "Worshipping Weeds: The Parable of the Tares, the Rhetoric of Ecology, and the Origins of Agrarian Exceptionalism in Early America." *Environmental History* 16 (2): 290–311.
- Metzger, Jonathan. 2018. "Can the Craft of Planning Be Ecologized? (And Why the Answer to That Question Doesn't Include 'Ecosystem Services')." In *Relational Planning Tracing Artefacts, Agency and Practices*, edited by Monika Kurath, Marko Marskamp, Julio Paulos, and Jean Ruegg, 99–120. Palgrave Macmillan. //www.palgrave.com/us/book/9783319604619.
- Meyer, Elizabeth K. 2015. "Beyond 'Sustaining Beauty': Musings on a Manifesto." In *Values in Landscape Architecture and Environmental Design: Finding Center in Theory and Practice*, edited by M. Elen Deming, 30–53. Baton Rouge: Louisiana State University Press.
- Millington, Nate. 2015. "From Urban Scar to 'Park in the Sky': Terrain Vague, Urban Design, and the Remaking of New York City's High Line Park." *Environment and Planning A* 47 (11): 2324–38. https://doi.org/10.1177/0308518X15599294.
- Mincyte, Diana, and Karin Dobernig. 2016. "Urban Farming in the North American Metropolis: Rethinking Work and Distance in Alternative Food Networks." *Environment and Planning A* 48 (9): 1767–86. https://doi.org/10.1177/0308518X16651444.
- Misrach, Richard, and Kate Orff. 2014. *Petrochemical America*. 2nd Revised edition. New York: Aperture.
- Molotch, Harvey. 1976. "The City as a Growth Machine: Toward a Political Economy of Place." *American Journal of Sociology* 82 (2): 309–32.
- Morton, Timothy. 2012. *The Ecological Thought*. Reprint edition. Cambridge, Mass.; London: Harvard University Press.
- Nassauer, Joan Iverson. 1995. "Messy Ecosystems, Orderly Frames." Landscape Journal 14 (2): 161-70.
- National Capital Planning Commission. 2019. "Planning History." 2019. https://www.ncpc.gov/about/history/.
- National Park Service. n.d. "Protecting the Snowy Plover." Washington, DC: U.S. Department of the Interior. https://www.nps.gov/goga/planyourvisit/upload/sb-snowy_plover_web.pdf.
- Nost, Eric. 2015. "Performing Nature's Value: Software and the Making of Oregon's Ecosystem Services Markets." *Environment and Planning A* 47 (12): 2573–90. https://doi.org/10.1177/0308518X15616631.

- Owens, Marcus, and Jennifer Wolch. 2018. "Urbanization and the Remodeling of Human-Animal Relations." Animals & Society Institute. 2018. https://www.animalsandsociety.org/public-policy/public-policy-libraries/urban-wildlife/commentary/.
- Penick, Clint A., Amy M. Savage, and Robert R. Dunn. 2015. "Stable Isotopes Reveal Links between Human Food Inputs and Urban Ant Diets." *Proc. R. Soc. B* 282 (1806): 20142608. https://doi.org/10.1098/rspb.2014.2608.
- Peterson, Jon A. 1985. "The Nation's First Comprehensive City Plan A Political Analysis of the McMillan Plan for Washington, D.C., 1900-1902." *Journal of the American Planning Association* 51 (2): 134–50. https://doi.org/10.1080/01944368508976205.
- Phillips, Jimm. 2012. "D.C. Rat Summit: Another Day in the Sun for City's Rodents." *The Washington Post*, February 8, 2012, sec. Local.
- Pickett, S. T. A., and M. L. Cadenasso. 2006. "Advancing Urban Ecological Studies: Frameworks, Concepts, and Results from the Baltimore Ecosystem Study." *Austral Ecology* 31 (2): 114–25. https://doi.org/10.1111/j.1442-9993.2006.01586.x.
- Police Court of the District of Columbia. 1907. *District of Columbia, Plaintiff in Error, v. Galen E. Green*. Washington, D.C.: The Washington Law Reporter Vol. XXXV.
- Rappaport, Bret. 1993. "As Natural Landscaping Takes Root We Must Weed Out the Bad Laws How Natural Landscaping and Leopold's Land Ethic Collide with Unenlightened Weed Laws and What Must Be Done about It." SSRN Scholarly Paper ID 2603500. Rochester, NY: Social Science Research Network. https://papers.ssrn.com/abstract=2603500.
- Rink, Dieter, and Harriet Herbst. 2011. "From Wasteland to Wilderness Aspects of a New Form of Urban Nature." *Applied Urban Ecology: A Global Framework*, September, 82–92. https://doi.org/10.1002/9781444345025.ch7.
- Robbins, Paul. 2007. *Lawn People: How Grasses, Weeds, and Chemicals Make Us Who We Are.* Annotated edition. Philadelphia: Temple University Press.
- Robbins, Paul, and Julie Sharp. 2006. "Turfgrass Subjects: The Political Economy of Urban Monoculture." *In the Nature of Cities: Urban Political Ecology and the Politics of Urban Metabolism*, January, 106–23.
- Rupprecht, Christoph D.D., and Jason A. Byrne. 2014. "Informal Urban Greenspace: A Typology and Trilingual Systematic Review of Its Role for Urban Residents and Rrends in the Literature." *Urban Forestry & Urban Greening* 13 (4): 597–611.
- San Francisco Department of the Environment. 2014. "Guiding Principles." Sfenvironment.Org Our Home. Our City. Our Planet. June 25, 2014. https://sfenvironment.org/article/toxicshealth/guiding-principles.
- Schindler, Sarah B. 2013. "Banning Lawns." Geo. Wash. L. Rev. 82: 394.
- Scott, James C. 1998. Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed. New Haven: Yale University Press.
- Shandas, Vivek. 2007. "An Empirical Study of Streamside Landowners' Interest in Riparian Conservation." *Journal of the American Planning Association* 73 (2): 173–84.

- Shaw, Wendy S., and Lindsay Menday. 2013. "Fibro Dreaming: Greenwashed Beach-House Development on Australia's Coasts." Urban Studies 50 (14): 2940–58. https://doi.org/10.1177/0042098013482507.
- Skuras, Dimitris, and Efthalia Dimara. 2004. "Regional Image and the Consumption of Regionally Denominated Products." Urban Studies 41 (4): 801–15. https://doi.org/10.1080/0042098042000194115.
- Solà-Morales, Ignasi de. 1995. "Terrain Vague." In *Anyplace*, edited by Cynthia C. Davidson, 108–13. New York: Anyone Corporation.
- Soper, Kate. 1995. *What Is Nature: Culture, Politics and the Non-Human*. First edition. Cambridge, Mass: Wiley-Blackwell.
- Steiner, Frederick. 2014. "Frontiers in Urban Ecological Design and Planning Research." *Landscape and Urban Planning* 125. https://doi.org/10.1016/j.landurbplan.2014.01.023.
- Sukopp, Herbert. 2008a. "On the Early History of Urban Ecology in Europe." In Urban Ecology, edited by John M. Marzluff, Eric Shulenberger, Wilfried Endlicher, Marina Alberti, Gordon Bradley, Clare Ryan, Ute Simon, and Craig ZumBrunnen, 79–98. New York: Springer. http://link.springer.com/chapter/10.1007/978-0-387-73412-5 9.
- Swyngedouw, E. 1997. "Power, Nature, and the City. The Conquest of Water and the Political Ecology of Urbanization in Guayaquil, Ecuador: 1880–1990." *Environment and Planning A* 29 (2): 311–32. https://doi.org/10.1068/a290311.
- Swyngedouw, Erik. 2006. "Circulations and Metabolisms: (Hybrid) Natures and (Cyborg) Cities." *Science as Culture* 15 (2): 105–21. https://doi.org/10.1080/09505430600707970.
- The Washington Post. 1898a. "Weeds," July 6, 1898.
- The Washington Post. ——. 1898b. "Our Superiority in Weeds," August 23, 1898.
- Tranel, Mark, and Larry B. Handlin. 2006. "Metromorphosis: Documenting Change." *Journal of Urban Affairs* 28 (2): 151–67. https://doi.org/10.1111/j.0735-2166.2006.00265.x.
- United States Congress. 1899. An Act To Cause the Removal of Weeds from Lands in the City of Washington, District of Columbia, and for Other Purposes. 326.
- United States House of Representatives. 1899. "Removal of Weeds from Vacant Lots." Report No. 1805. 55th Congress, 3d Session.
- United States Senate. 1899a. "Removal of Weeds, Etc., in the City of Washington." Congressional Record Senate.
- ———. 1899b. "Removal of Weeds from Lands in the District of Columbia." Report No. 1550. 55th Congress, 3d Session.

- ———. 1902. "Removal of Weeds from Lands in the City of Washington, D.C." Report No. 749. 57th Congress, 1st Session.
- _____. 1949a. To Provide for the Removal of Weeds from Lands in the District of Columbia.
- ———. 1949b. "Providing for the Removal of Weeds from Lands in the District of Columbia." 370. 81st Congress, 1st Session.
- United States Senate Committee on the District of Columbia. 1902. "The Improvement of the Park System of the District of Columbia." Washington, D.C.: Government Printing Office. https://catalog.hathitrust.org/Record/000844413/Home.
- U.S. Fish & Wildlife Service. 2018. "State Wildlife Grant Program Overview." February 2, 2018. https://wsfrprograms.fws.gov/subpages/grantprograms/swg/swg.htm.
- Vessel, Matthew F., and Herbert H. Wong. 1987. *Natural History of Vacant Lots*. California Natural History Guides 50. Berkeley: University of California Press.
- Washington Evening Star. 1897a. "Pull the Weeds," August 17, 1897.
- Washington Evening Star. ——. 1897b. "Affairs in Alexandria," September 11, 1897.
- Washington Evening Star. ——. 1897c. "Household Hints," September 18, 1897.
- Washington Evening Star. ——. 1897d. "Question of Retirements," September 29, 1897.
- Washington Evening Star. ——. 1898a. "Weeds on Vacant Lots," September 19, 1898.
- Washington Evening Star. ——. 1898b. "Prevalence of Diptheria," October 6, 1898.
- Washington Evening Star. ——. 1899a. "Patriotic Planting," March 25, 1899.
- Washington Evening Star. ——. 1899b. "United States Responsible for Weeds," July 14, 1899.
- Washington Evening Star. ——. 1899c. "Neglect of Parking Charged," August 2, 1899.
- Washington Evening Star. ——. 1900a. "Condition of Parks," April 25, 1900.
- Washington Evening Star. _____. 1900b. "Not Covered By Law," September 1, 1900.
- Washington Evening Star. _____. 1906a. "The Health of the City," July 2, 1906.
- Washington Evening Star. ——. 1906b. "Cut the Weeds!," August 4, 1906.
- Washington Evening Star. ——. 1910. "Unable to Compel Cutting of Weeds," August 24, 1910.
- Weisser, Wolfgang, and Thomas Hauck. 2017. "Animal-Aided Design Using a Species Life-Cycle to Improve Open Space Planning and Conservation in Cities and Elsewhere." *BioRxiv*, June, 150359. https://doi.org/10.1101/150359.

- Whitehead, Mark. 2003. "(Re)Analysing the Sustainable City: Nature, Urbanisation and the Regulation of Socio-Environmental Relations in the UK." *Urban Studies* 40 (7): 1183–1206. https://doi.org/10.1080/0042098032000084550.
- Williams, Raymond. 1985. "Nature." In *Keywords: A Vocabulary of Culture and Society*, revised ed, 219–24. New York: Oxford University Press.

Wolch, Jennifer. 1996. "Zoöpolis." CNS 7 (2): 21-47.

-----. 2002. "Anima Urbis." *Progress in Human Geography* 26 (6): 721–42. https://doi.org/10.1191/0309132502ph400oa.

- Yates, Julian S., and Jutta Gutberlet. 2011. "Reclaiming and Recirculating Urban Natures: Integrated Organic Waste Management in Diadema, Brazil." *Environment and Planning A* 43 (9): 2109–24. https://doi.org/10.1068/a4439.
- Yiftachel, Oren. 1998. "Planning and Social Control: Exploring the Dark Side." *Journal of Planning Literature* 12 (4): 395–406. https://doi.org/10.1177/088541229801200401.
- Zeisel, John. 2006. Inquiry by Design: Environment/Behavior/Neuroscience in Architecture, Interiors, Landscape, and Planning. New York: W.W. Norton & Co.