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Urban Wildlife

Introduction

When we think of cities, our attention is usually drawn to the built and social environment -- the architecture, infrastructure and social dynamics of urban human life. When we think about nature and cities, if at all, it is often about landscaping, parks, open space, clean air, clean water -- a variety of ecosystem services that sustain and enrich human life.

More recent discourses in urban ecology, urban geography and urban planning emphasize the benefits to human health and well being of green space and green infrastructure (e.g. parks, living walls), urban agriculture and local farming, sustainable transportation and energy production, the challenges that climate change poses to urban areas, and issues of social justice in urban environments. Such topics are now common foci in public policy discussions of creating greener, sustainable and resilient cities.

Yet cities are more than a collection of human beings, their artifacts, and a bit of parkland. They are complex and sometimes fecund ecologies creating unique landscapes -- configurations of natural and cultural phenomena -- that are not seen in nature alone. Rather they are anthropogenic "humanitats", designed primarily for people but hosting a wide variety of synanthropes -- wild animals, plants and other lifeforms that live near and benefit from human beings.

Ongoing urbanization tends to reduce the biodiversity of wildlife in the humanitat through human depredation (e.g. hunting, trapping), habitat fragmentation and destruction (especially harmful to ecological specialists), and the introduction of alien species. On the other hand, there are many wild animals and plants that thrive in urban areas throughout the world -- coyotes, foxes, jackals, bobcats, racoons, deer, hedgehogs, wild boar, monkeys, rats, mice, and a variety of insects like pill-bugs, roaches and silverfish. All these species are ecological generalists capable of inhabiting a wide variety of urban niches.

At the same time, cities are also home to an abundance of domestic animals, populations of which may far outstrip populations of related species in the wild. Dogs and cats are the primary example worldwide, existing in far larger numbers than their

nearest evolutionary relatives. While these popular companion animals may often be well cared for, some have become feral with free-breeding urban populations. This can create health and safety issues from diseases like rabies and attacks on people or other animals. Ecological issues may arise as well, such as when outdoor cats prey upon native wildlife.

As cities seek to green their infrastructure through open space, afforestation, and natural landscaping, many species of wildlife have begun to re-inhabit urban areas. So too, suburbanization brings people and their domestic animals into the former habitat of wild animals. People and domestic animals are therefore coming into increasing contact with wildlife. This can create conditions ripe with conflict -- marmots burrowing under a shed, skunks digging for grubs on lawns, and coyotes snatching up dogs and cats for food.

This is also true for those coastal, lake and river-side cities that have significant "blue space". Conflicts with humans and their urban environments abound -- chemical, particulate and thermal pollution from point and non-point sources, degradation of beach habitat by human recreation, over-fishing in littoral waters, development of coastal estuaries, shark attacks on swimmers, crocodiles in backyards, exotic pythons and other constrictors in wetlands, road-kill of amphibians and reptiles, and so on.

The essays below take these complexities of the human-wildlife interactions to heart and reflect on some of the key contemporary issues presented by urban wildlife.

- John Hadidian focuses on biophilia -- a human predisposition to love living things -- as a vision and practice that not only makes urban life better for people, but is a guidepost for learning how to solve urban conflicts with wildlife in a humane manner.
- Kate Littin examines the rhetoric and practice of "pest control", its implications for animal welfare, and the limitations that metaphors like plague have in shaping our understanding of how best to manage unwanted wildlife.
- Marcus Owns and Jennifer Wolch track how the changing spatial and social elements of cities continuously transform our relationship with urban animals, wild and domestic. This poses challenges for urban planner and residents as they seek new models of encouraging biodiversity while learning to live with wild neighbours.

A unifying theme across all three essays is the emergence of interspecies ethics in policy debates over urban wildlife management. The old paradigm of managing urban wildlife comes from traditional conservation. Urban wildlife is managed by killing some animals over here (e.g., urban park deer hunts) and modifying some habitat over there (e.g., urban wetland restoration). All this is done with an eye to recreation (e.g.,

hunting, trapping) and biodiversity (e.g, restoring native species). Wildlife in this paradigm are biological machines ("automata"), functional units of ecosystems, and a commodity of instrumental value to society. Individual creatures are unimportant as long as the species or population thrives.

This paradigm is increasingly challenged by "humane", "compassionate" and "animal protection" views of urban wildlife management. These perspectives see urban wildlife as having an intrinsic value as individuals, populations and species. This is true even for those species we label as exotic, invasive, nuisance or pests. These new paradigms also see traditional conservation methods as ineffective. Most urban wildlife conflict emerges from inappropriate actions or expectations on the part of humans. For instance, feeding deer because of their beauty, but heedless of their overpopulation, can seriously damage an urban ecosystem. So too, leaving food and water out for free-roaming cats or small dogs is an invitation to coyotes for a quick and nutritious meal. In these circumstances, lethal wildlife management essentially treats the symptom but not the underlying conditions that cause conflict between people and urban wildlife.

Respecting the lives of animals has four important implications for management. First lethal means should only be used as a last resort when non-lethal strategies can produce comparable results. Second, the management of human expectations and activity is emphasized since it goes to the root of most human-wildlife conflicts. Third, a much broader array of stakeholders should have a voice on public policies affecting urban wildlife. Hunters, trappers and property owners need to make room at the table for animal rights and welfare advocates, animal protectionists, environmentalists, and others. Finally public investments in urban wildlife management should shift away from organizations that rely solely or mostly on lethal means (e.g., the pest control industry) to organizations relying on non-lethal means and public education.

Biophilia as Goal and Guideline in Urban Wildlife Management

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Cities have come a long way from being the Dickensian nightmares they often were. Of course, suffering and environmental abuse is still closely associated with urbanization, particularly in the emerging megacities of the developing world. The metastasized growth there is counterbalanced, however, in other places where careful and sympathetic planning brings cleaner air and water, more light, and expanded green spaces into the urban matrix. The biotic community responds sympathetically to these sorts of improvements and there is growth in animal and plant diversity that can then be tied directly to better human health and well-being. Although to some it might still seem illogical to speak of the biotic community as a part of an urban ecosystem, to a

growing community of specialists and practitioners this not only makes sense, but is crucial to understanding how cities work and might be made better. In admitting the moral obligation to make cities better places for people to live we should accept that much of this can only be achieved through better connections to the natural world.

Urban biota can be surprisingly rich and diverse, thrive under great adversity, and dynamic in coping with the fast moving changes that typify the urban environment itself. Adaptation takes place in and evolutionary processes guide life in cities as everywhere. 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? As we reconceptualize cities, two core concerns emerge out of the association of humans with nonhumans in the urban context: encouraging biodiversity and humanely resolving conflicts.

Both can be framed by appeal to the concept of Biophilia, defined as the innate as well as learned affect humans have for the natural world. Biophilic design provides a theoretical basis for how to imagine the built environment, and humane living serves as its praxis. From increased biodiversity urban systems receive improved environmental quality and services. The expanded natural community directly provides human benefits through better health, pleasure, recreational enjoyment and learning. Through humane conflict resolution the human occupants of cities connect directly to the natural world in a positive way and embrace strategies that are environmentally sound as well as life affirming.

From diversity and humaneness as biophilic constructs comes the opportunity to learn and embrace values that extend beyond urban boundaries into places where relief from human impacts may be desperately needed. In all aspects, embracing the urban environment as a natural environment rejects the idea of cities as above nature, existing as distanced isolates that need not be seen as part of a planetary whole. It may be important to reflect on the fact that in our more than 200,000 years on Earth as a species we have only spent a few moments in which cities have been our habit, much less our principal habitat. The way to keep from losing a love of the wild, if that is what is important to us, is to accept and appreciate a little of it in our cities.

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A Plague Upon Their Houses – Urban Pests and Animal Welfare

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Plague, noun

1. A wound, a sore, a boil
2. A particular affliction, calamity, or evil, esp. one interpreted as a sign of divine anger or justice, or as divine punishment or retribution
3. A curse, outbreak or pestilence.

Of all the issues to do with urban wildlife, intentional harm caused in the name of 'pest' management is one of the most contentious. Here I argue that the fact we see pests as a plague is getting in the way of animal welfare improvements.

Pest management carries inherent risks to animal welfare, at least for vertebrates. It affects animals that are deliberately targeted, but also animals that are not the intentional target – through direct exposure to management techniques, and indirectly through effects on target animals (such as their parents and family) and the environment. Obvious impacts include pain and other aspects of suffering, but more insidious impacts include social disruption, reduced population fitness and impaired immune function. Some argue that death is a negative impact (on the other hand, a wild life in freedom might make up for a hard death).

Improving animal welfare in pest management is conceptually simple: choose control techniques that have the least impact on animal welfare while remaining effective (if not effective, any suffering caused has arguably been in vain); apply best practice in manufacture and use (to minimise all undesirable impacts and ensure management aims are met); and in management programmes, set aims clearly and design and monitor them to continue achieving their aims over time. An ‘adaptive management’ approach, taking learning from one case and applying it to the next, further minimises harm over time. There also needs to be ongoing improvement of current methods and a continued search for more humane alternatives.

In reality, some improvements are difficult to achieve. For instance, the most humane technique will not necessarily be the most effective. Also, we do not know the animal welfare impacts of all techniques, and there is no consistently applied model for comparing animal welfare impacts between techniques (although a ‘model for assessing the relative humaneness of pest animal control methods’ has been published, it has so far been picked up only in New Zealand and Australia.)

Arguably, the main barrier to improvement is the attitudinal shift required to drive the change in human behaviour. Attitudes to pests are complex and diverse, as shown by customers commenting on rodent control products: “The fact that the animal wallows in pain for hours and cannot move to get food kills it. Makes me sick” vs. “I was delighted to find a disgusting, stinking, filthy rat stuck right smack dab in the middle of the trap.” We maybe feel no obligation towards pests – they do us harm and we get nothing from them. This is unlike the sense of fairness at play when considering the wellbeing of animals we raise for food. And improved handler attitudes towards farmed animals are shown to translate into happier (and more productive) animals. There is no similar link for wildlife. The issue also gets side-tracked by the ‘conservation vs. animal welfare’ argument; however, animal welfare can be improved regardless of which party we like the most!

There are many ways to shift attitudes. One is to make homeowners and professional pest managers aware of the impacts of what they do. Another is to make the most of the sense of professionalism and collegiality in the professional urban pest control industry, and highlight concern for animal welfare as a professional value. There is also a role for public participation in decision-making about community pests (such as pigeons in parks).

Although it may be difficult, a longer-term shift away from the attitude that pests are a plague will greatly support our immediate efforts to minimise harm in pest management programmes by practical means.

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Urbanization and the Remodeling of Human-Animal Relations

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As urbanization changes the form and function of our cities, so too are our relationships with nonhuman animals being remodeled. In both the global south and the developed countries of the global north, extensive urbanization blurs traditional dichotomies

between urban and rural, and wild and domestic. The landscape of contemporary urbanization impacts wild animals through more frequent and intensive contact with people and the built environment, through habitat destruction, introduction of invasive species or other ecosystem disturbances, or direct conflict with humans or domestic animals. Global transportation networks can also facilitate the spread of disease vectors from wild animals originating in otherwise remote locations into areas densely populated by humans, as well enable the illicit trade in wild animals. Finally, urbanization is associated with increased consumption of animal products, leading to larger urban ecological footprints and animal welfare challenges.

Most cities are home to domestic animals and wild animals that are highly adapted to urban environments such as cats, rats or squirrels. In some urban zones, however, wild animals are re-establishing themselves in greater diversity and abundance. These are 'shrinking cities' – former industrial cities that have lost jobs and population. Here, abandoned infrastructure corridors and interstitial spaces have created new habitats and niches for animals, including urban waterways and wetlands. More generally, cities are increasingly proactive about "greening" of urban districts, often with the explicit aim of increasing biodiversity.

As a result, novel challenges emerge for planners and designers. Some ecologists argue that meso-predators such as coyotes and feral pigs are disproportionately suited for urban environments. The term "top-down trophic cascade" describes the affect that a glut of these mid-level predators can have on an ecosystem if populations go unchecked by traditional apex predators such as wolves. The process of "re-wilding" has been proposed, as a way to re-introduce apex predators that often require a larger range and therefore enhanced landscape connectivity to bypass barriers such as highways. Spatial tactics may ameliorate the situation, such as the high-design ARC wildlife overpass in Colorado or the matrix of ecoducts located within the Dutch National Ecological Network. In circumstances involving animal population growth leading to starvation, disease or overexploitation of habitat; conflicts over livestock depredation; or the spread of disease vectors, the situation may call for non-lethal strategies including prohibiting movement through mechanisms such as simple fencing around sensitive areas, biosecurity measures, or more subtle landscape interventions. Non-spatial strategies, employed by state governments in India, for example, to reduce urban conflicts between humans and monkeys, include simian contraception and related measures.

On the social side, urban residents will need to learn how to navigate novel interspecies encounters. Public education campaigns in cities such as Berlin and Los Angeles offer residents lessons in the etiquette of encounters with wild boar and coyotes, respectively. Finally, 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.

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