

Urban Protected Areas & Ecological Integrity

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Why are urban protected areas important?

Traditionally, urban areas have been a relatively neglected topic in conservation. Urban areas are generally thought of in terms of *problems* – the problems created by urban areas on more remote natural areas. These impacts are well known and widely discussed, for example fragmentation of natural habitats, loss of habitat due to urban expansion or sprawl, and the creation of air and water pollutants which have detrimental impacts on the values of natural areas both adjacent to urban areas and those located at more remote distances.

Municipal and regional governments in Canada have long maintained systems of parks, green or open space, including protected areas. In this sense, a distinction should be made between urban *parks*, with a strong recreation focus, and urban *protected areas*, used in this context to refer to areas with a conservation focus. Although much of urban open space development has been oriented towards parks, these areas and other open space areas in urban regions can still have a role in protecting biodiversity and ecological integrity.

Setting aside urban areas for their ecological values is a fairly recent activity in Toronto and other Canadian urban areas. Toronto contains some significant, large protected areas for example High Park, the various river valleys including the Humber River – recently designated as a Canadian Heritage River. Of particular significance in the Toronto region is the Rouge Park one of the largest urban parks in Canada. Planning and management of the Rouge is oriented towards protection and restoration of natural values, and unusual focus for an urban protected area. Ecological restoration generally is increasing in urban protected areas, and has been increasing especially since the 1990s. Examples include oak savannah restoration in High Park, and the proposed re-establishment of a natural river mouth for the Don River. Many of the river valleys have regeneration task forces.

Recognition of the potential value or role of urban protected areas to nature conservation, biodiversity, sustainability, and ecological integrity has been slowly increasing in recent years. In planning for urban areas, there has been an increasing tendency to think in terms of significant natural areas, environmental significant areas, and protecting urban biodiversity, natural features and processes. It can be hoped that these areas will play an increasing role in years to come in restoring nature to urban areas, protecting biodiversity at all levels, and providing the many other benefits associated generally with protected areas.

Comments on Speakers

Several key points emerged from the morning presentations.

1. There should be more awareness of or consideration of urban areas not only as a source of problems, but in terms of how they can help nature conservation, biodiversity, and ecological integrity. The potential value or role of protected areas are well known. Beyond those related to ecological values, urban protected areas can help educate urban dwellers – often isolated from natural areas – and build a greater constituency for protected areas in non-urban areas. From a solely urban perspective, protected areas have addition values, including improving the liveability or sense of community of large city areas (Table 1).

Table 1. Functions of Urban Parks and Protected Area (modified from Wright 2000)

<p>Conservation Biophysical Resources</p> <ul style="list-style-type: none"> • “protected areas” • help maintaining healthy balance between humans and resources of biosphere; e.g. protection of water supply, protection from floods and other hazards • protection of urban biodiversity – e.g. species and habitats • protection of natural ecosystem structure and function • preserve environmentally sensitive areas and ecosystems or parts of ecosystems <p>Human Needs</p> <ul style="list-style-type: none"> • satisfy immediate behavioural needs, e.g. neighbourhood park or other urban park area, waterfront areas • enjoyed range of recreational activities and educational uses • may offer opportunities for social contact, privacy, inspiration, contrast to built environment <p>Shaping Urban Form</p> <ul style="list-style-type: none"> • shapes pattern of development, as well as providing recreational opportunities, for example space corridors that link one park to another • can provide buffer between incompatible land uses, e.g. industrial and residential

2. As was mentioned many times, there is a need to think not just on a site basis or on the basis of an individual protected area, but rather we need to think and plan on a landscape or bioregion scale. In doing so we should not ignore urban areas. Simply put, these areas are part of our landscapes and bioregions, often located at key places, and we should not look on them as black holes. We can begin by discussing or developing a vision of the role urban protected areas can play in our efforts to maintain biodiversity and ecological integrity.

3. A long-term perspective is often mentioned as a requirement when thinking about bioregional or other large-scale ecological planning. We often talk about the need to think about what a landscape or bioregion could or should be in 100 or 200 years. Given the general skepticism or disbelief that urban areas can contribute to nature conservation and ecological integrity, taking a long-term perspective regarding the potential of urban protected areas might be a good place to start. Granted, a snapshot of most urban areas today and current urban trends such as continued sprawl could leave little room for hope. However, if we are willing to dream big in terms of restoration of wildlife corridors in the Algonquin to Adirondack region, or restoration of major habitat areas across North America, surely we can extend this vision to urban areas and develop a vision of urban areas that are supportive of biodiversity and ecological integrity.

Questions Regarding Urban Protected Areas and Ecological Integrity

The theme of ecological integrity raises several questions that require more attention in terms of urban areas. The questions proposed below by no means represents an exhaustive list, but are offered to provoke some thought or discussion regarding urban protected areas and their role or value in ecological integrity.

What does ecological integrity mean in urban areas?

Many definitions have been proposed for ecological integrity. The Panel on Ecological Integrity of Canada's National Parks (2000), proposed the following definition:

An ecosystem has integrity when it is deemed characteristic for its natural region, including the composition and abundance of native species and biological communities, rates of change and supporting processes.

The question is, is this a reasonable definition or goal for an urban area? The short answer is no. It is hard to imagine an urban area having a full complement of the native species, communities and processes, even over the long-term. Perhaps the term or goal of ecological integrity should not be applied to urban areas. What then should we strive for in urban areas? Sustainability? Ecosystem health?

A related question is how do we measure ecological integrity in urban areas? What indicators can we use to help track progress? What is our end goal for urban areas?

What is the role of urban protected areas in maintaining/restoring ecological integrity?

This question deserves some debate, and speaks to the current lack of understanding or concern with regards to nature conservation in urban areas. All protected

areas can play a role in fulfilling conservation goals, such as protecting biodiversity and restoring/enhancing/maintaining ecological services. In order to gain a greater appreciation for the potential role and importance of urban protected areas, more study of this question should be undertaken. We should consider this question over several time periods, for example, what is the current role of urban protected areas in maintaining or restoring ecological integrity, what could be their role over the medium term, and over the long term? Although the current contribution of urban protected areas to conservation goals may be limited, it does not follow that this role is destined to be forever limited. We might develop an action plan of how urban protected areas can contribute to a greater degree over time.

How can urban protected areas be used to promote an understanding of ecological integrity?

A key role urban protected areas can play is in the field of public awareness and education. Many urban dwellers, the majority of Canadians, have little access to nature and consequently many have little understanding or appreciation of the values and services offered by protected natural areas both to humanity and to other species on our planet. How can we use urban areas – more likely to be accessed by greater numbers of people – as an education tool, not only for general environmental awareness, but also to help build a constituency for efforts to protect/restore/enhance ecological integrity across broader landscapes or regions.

How can we restore/maintain/enhance the integrity of urban protected areas?

Work has been increasing to restore levels of naturalness to urban protected areas, for example, in the Toronto region. If we frame one goal of urban protected areas as restoring or enhancing ecological integrity, what does this entail? How does this change the current work on nature conservation in urban areas, including current efforts at renaturalization? What are the implications for urban planning?

How do concepts such as nodes, corridors, greater park ecosystems apply in urban areas?

Conservation planners in the last couple of decades has increasingly accepted the idea that, in order to protect biodiversity and ecological integrity, we should be developing linked systems of buffered protected areas. These ideas have primarily been advanced in terms of non-urban protected areas and regions. Questions regarding how these and other concepts from developing fields such as conservation biological and landscape ecology apply to and function in urban areas deserve some attention.

How can urban protected areas contribute to broader regional planning to enhance ecological integrity over landscapes or bioregions?

Efforts at large scale bioregional or landscape planning, with an aim to restore and protect biodiversity and ecological integrity over the long term are increasing. Urban areas must play a role in these efforts. We cannot afford to treat urban areas – especially those rapidly growing urban regions such as Toronto – as black holes.

We must find a way to integrate them into our on-going and future regional conservation planning exercises.

References

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- Wright, J.R. 2000. *Urban Parks in Ontario: the modern period*. Ontario Ministry of Citizenship, Culture and Recreation, Ottawa.