A LANDSCAPE APPROACH FOR THE 21ST CENTURY

GREEN CITY

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HEART OF THE CITY CONFERENCE
Shaping the Future of City Parks in Canada

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Cover Photo: Pollinator habitat in Toronto's Gatineau hydro corridor – Jake Tobin Garrett

TABLE OF CONTENTS

INTRODUCTION

We are an increasingly urban species. The United Nations[1] predicts that by 2050, over 66 percent of the world's population will be living in urban areas; Canada is already 80 percent urban.

Cities and towns, as human habitat, need more and more to be addressing all of our needs and doing so in ways that are satisfying and sustainable.

Ideally, urbanism should be one of the best expressions of good environmentalism, but in practice, cities are often hostile places for nature and for ourselves. The perils of the 21st century city now include the uncertainties of climate change, loss of species diversity, concerns about sustainability, threats to human health, and loss of sense of place. Our parks and open spaces are increasingly under pressure. The need is urgent: "this thin mosaic, the tissue of the planet, is in upheaval."[2]

Glen Stewart Ravine in Toronto

The examples in Canada are many. Extreme climate events have had serious impacts on cities and their parks. In 2003, Hurricane Juan devastated much of the city of Halifax, Nova Scotia, including Point Pleasant Park and the Public Gardens—two important public spaces. In 2013, much of southern Alberta experienced massive and widespread floods. Parks in many towns and cities including Calgary, Medicine Hat, and High River were among the public spaces that were destroyed, taking much of the brunt of the environmental impact. Toronto experienced massive floods in multiple years, including 2013, when 10 cm of rain fell over the city in just two hours.

These are only a few examples of the kinds of climate events that experts tell us are going to be more common and more severe. The damage to buildings and private property from these events is huge and the economic cost incalculable. The impact on the natural landscape and on parks is also enormous.

New tools, techniques, and ways of understanding nature in the city are required. Parks, once thought of as places of relief from the urban condition, should be viewed as integral with city form, and as having important roles to play in sustaining life, in addition to providing places for recreation, entertainment, and aesthetic enjoyment. Parks and parks systems are part of our very survival, providing countless environmental functions and giving cities greater resilience to withstand the unpredictability and extremes of climate that are now more common and catastrophic.

[1] United Nations (2014) http://www.un.org/en/development/desa/news/population/world-urbanizationprospects-2014.html

[2] Grant Jones, in Dramstad, Wenche E, James D Olson, Richard T T Forman (1996) Landscape Ecology Principles on Landscape Architecture and Land Use Planning. (Harvard Graduate School of Design, Island Press and the American Society of Landscape Architects, 1996), 5.

Washed out park path in Calgary – Bev Sandalack

A landscape approach to urban planning and design is necessary in order to respond to the pressing needs of the 21st century, and to reflect the values of society. This will require a revolution in parks and park systems at the scale and importance of the late nineteenth century urban parks movement. Led by Frederick Law Olmsted and other visionaries, this movement recognized the importance of urban parks to the health and welfare of city residents, and radically reconceptualized the relationship between nature and society. The practices of urban planning and landscape architecture were set on a strong path, epitomized best by New York City's Central Park[3] and we must continue forward on this path to create park systems for truly resilient cities.

[3] See Ron Williams Landscape Architecture in Canada (McGill-Queen's University Press, 2014), Galen Cranz The Politics of Park Design: A History of Urban Parks in America (Cambridge: MIT Press, 1982), Anne Whiston Spirn (1985) The Granite Garden: Urban Nature and Human Design (Basic Books, 1985), and Edwinna von Baeyer Rhetoric and Roses: A History of Canadian Gardening 1900-1930 (Markham: Fitzhenry and Whiteside, 1984) for discussion of the history of the urban parks movement.

HISTORIC OVERVIEW – URBAN PROCESS, VALUES, AND PARKS

How did we get here? The evolution of the city reflects the evolution of ideas and ideologies, and of changing theories and practices of urban design and planning.

The values cultures place on the built landscape are reflected in changing patterns of land ownership, land development, and environmental values, and consequently in the spatial, social, and ecological qualities of the public realm. In short, our cities are a manifestation of societal values. We can read the changing values of society by looking at the development of a city and its parks.

The case of Calgary provides some insight into how city parks evolved and how they have been expressions of values. Many cities and towns in Canada evolved according to similar processes, although their own geographical settings and histories have influenced specific park locations and design aspects in unique ways.

Canada is composed of numerous distinct landscape regions. These landscapes are completely different in almost every way: site, climate, history, culture, function, economics, temperament. Our cities also contain multiple landscapes. Calgary is located at the interface of the prairies and the foothills, and includes grasslands, aspen forest, riverine forest, Douglas fir forest, and various aquatic habitats. The opportunities for park and open space systems are highly dependent on its unique setting.

The first phase of urban development in Calgary, as in most other western cities, lasted up to approximately World War II and was marked both by radical transformation of the landscape and by incremental urban change.[4] New development usually extended and grafted onto the existing grid framework, and the street was considered a public space.

In Calgary, the intersection of the rivers, the Canada Land Survey grid, the railway line, and the railway company grid established early town form. William Pearce, a Calgary visionary, saw natural features as prime determinants of urban development, and envisioned Calgary as a city of trees, dotted with parks, with land along the rivers set aside for public use, all connected like links in a chain. During this time, riverside land in the downtown was perceived to have low value, and Calgary's river banks were the site of lumber yards, garbage dumps, and industrial uses that would remain until the 1960s.

William Reader, an early Parks Superintendent, further encouraged tree planting and establishment of an urban forest in Calgary. This occurred in the face of a shortage of water, desiccating Chinook winds in the winter, alkaline soils, insufficient funding, the absence of a comprehensive plan, and conflicts with city utility companies that frequently dug up boulevards and ruined tree plantings when installing water, gas, or electrical services.

[4] see Edward Relph The Modern Urban Landscape (Croom Helm Ltd., 1987) for a discussion of the phases of urban development

Central Memorial Park – Glenbow Archives

Early public spaces included railway gardens (a distinct North American form located adjacent to the railway stations whose primary functions were promotion of the towns and advertisement of prairie fertility; some evolved into public squares serving the community), as well as central memorial parks, public spaces associated with public buildings, and recreation parks—many created through donated land.

Calgary's streets, parks, and islands created an infrastructure of public space that expressed the civic values and ambitions of the period. As the city expanded, Council required dedication of a minimum of five percent of proposed subdivisions for parks purposes, guaranteeing that all citizens would have access to open spaces, recreation areas, and playgrounds.[5]

The second phase of urban development in western cities coincided with the period of economic growth following World War II, and corresponded with modernism, corporate development, and the institutionalization of town planning.

History, tradition, and local identity were thought to be anti-progress and old-fashioned, and land uses such as parking were considered more important than the public realm. As a result, huge swaths of urban fabric were torn down in Calgary including the Eau Claire, East Village and Victoria Park areas, and replaced with surface parking, eliminating many public spaces. There was an urge to clean up and clear out the old; for example, in 1947 the City purchased Prince's Island and began to clear its underbrush to create picnic sites.

This period saw an emphasis on the provision of parks and open spaces for the booming post-war population, focusing on residential neighbourhood planning, and on a renewed interest in street tree planting. The neighbourhood was promoted as the basis for the organization of suburban development, with school and park as the social and functional centre.

[5] see City of Calgary Parks Department Calgary Celebrating 100 years of parks: from the ground up (2010) and Beverly A. Sandalack and Andrei Nicolai The Calgary Project: urban form/urban life (University of Calgary Press: Calgary, 2006) for a discussion of the history of Calgary's parks and public realm.

Calgary CPR garden – Glenbow Archives

In the 1960s the Parks Department entered a new period of growth and expansion, reflecting the importance of leisure as the baby boom population reached its teen years. This ushered in a shift from beautification, decorative parks, and playgrounds to family and athletic parks, like public golf courses. As an unintended consequence, partly due to the growing requirement for standardized design and construction details, parks throughout the city began to exhibit a more uniform design vocabulary. The "natural" environment, which featured a diversity of environmental and microclimatic contexts, became more and more removed from what was built, leaving little indication of the original landscape.

At the same time, new ideas about ecology were starting to influence society's notions of nature, notably Aldo Leopold's notions about environmental and land ethics, and Rachel Carson's critique of pesticides.[6] These were credited as two of the main forces helping to launch the environmental movement and pave the way for broad acceptance of ecology as a way of thinking about the world.

The third phase of urban development, from the late 1970s through to the last decade or so, continued to include standard details and replicated park types, but there were also several significant projects, some of which came about through the efforts of an increasingly engaged and ecologically minded citizenry. Notably, two large environmental areas (Nose Hill Park and Fish Creek Park) were created at what were the north and south edges of Calgary.

[6] Aldo Leopold A Sand Country Almanac (Oxford University Press, 1949). Rachel Carson Silent Spring (Houghton Mifflin, 1962)

A longstanding urban goal of rededicating the land along the rivers as publicly accessible open space was also finally achieved. In 1991, the City proceeded with development of an Urban Parks Master Plan for the river valley system and designated 160 potential park sites. The river path system now includes more than 800 kilometres of pathways connecting the rivers and other water bodies, and another 300 kilometres of bikeways and cycle tracks. The plan also included a section on flood management, recognizing the river as a dynamic, active system with its associated risks.

We have now entered a fourth phase of urban development. Ideas about sustainability and sense of place, together with a concern for the public realm, are part of the value of society and the environmental design professions, and should be informing the park systems we create.

Today, there are two parts of the city that have somewhat different processes of park development.

In new suburbs, the Alberta Municipal Government Act requires that ten percent of developable areas be set aside for public amenities, including parks. Although the locations are negotiated, this does not necessarily guarantee a comprehensive approach to park and open space development, as the process is somewhat subject to private interests and decisions and dependent on many often competing factors.

In the developed city, Calgary, like many other places, has embarked on a process of re-urbanization. In an effort to counter suburban sprawl, redevelopment and intensification are encouraged in inner city areas, and downtown living has regained much of its cachet. These new, urban residents require open space and have a greater expectation of urbanity in their surroundings. As a response, ambitious public realm improvement programs are more common. However, with increased urbanization comes associated environmental issues related to pollution, creation of heat islands, and the amount of pervious/impervious surfaces. Maintaining a healthy urban forest, achieving minimum recommended canopy coverage, and creating sustainable parks are challenges in the presence of fiscal constraints.

Currently, the development of public space falls within the purview of only one municipal department at a time. Urban landscape projects are frequently conceived of as individual, standalone sites by those responsible for planning the city, although shaping the public realm's many components in practice requires a high degree of cooperation and coordination between the actors involved in its development and management—city planning and engineering departments, landowners and designers, and the community that uses it.

The municipal tendency to house departments in silos contributes to considering parks as individual, unrelated 'things', and sometimes as afterthoughts, rather than as part of a larger, integrated open space system. Our planning and management need to reflect our current values of sustainability and resiliency, and also reflect the environmental pressures our park systems face.

PARKS IN AN AGE OF CLIMATE CHANGE

Climate change continues to emerge as a pressing issue, and will have unknown impacts on our cities.

Drought, flood, air quality and water quality are now profoundly influenced by human actions; many of the ecological changes are "human-caused, rapid, and drastic."[7] Resilience, a concept that has become more important as extreme climate events have been more common, can be defined as the capability of an organism (or a city) to adapt to change.

There is evidence that parks and open spaces that function as systems and feature a diversity of species, form and function are more likely to be able to maintain ecosystem health.[8] The tendency to standardize details, species, and designs has likely been a negative process that should be addressed by embracing diversity. A city's resilience is affected by how well its parks and open spaces can absorb the impacts of change.

Albion Falls in Hamilton

The floods of 2013 that affected much of southern Alberta prompted many responses, most in reaction to the devastation that the overflowing rivers had on urban areas built on the floodplains. What is the future of the Bow and Elbow rivers? What effect will further retreat of the Bow Glacier have on Calgary's water supply, and how will the changing river affect the city that it passes through?

We have always been at the mercy of climate—sun, wind, rain, and snow influence much of our quality of life. We only have to experience a flash flood, a blizzard, an ice storm, or a heat wave to be reminded how our lives are affected by weather. These climate events, which are likely to become more extreme and also more common, affect our parks and open space. The damage to parks due to climate events is not just an inconvenience—the ability to engage in recreation, exercise, and enjoy nature are fundamental rights that urban dwellers expect, and the huge costs of repairing damaged infrastructure place great burdens on cities.

Considerable research shows how parks and open spaces are vital elements in improving the urban environment and mitigating climate change. As temperatures increase in Canadian cities, proper plant material selection becomes vital, as vegetation is important in regulating air temperature. The urban heat island effect, the phenomenon of higher temperatures in urban areas due to the absorption of solar radiation by buildings and paved surfaces, is accentuated as more area is devoted to paved surfaces than to vegetated areas and water bodies.

[7] Richard Forman Urban Ecology: the science of cities (Cambridge University Press 2014), 11)

[8] D.J.Rapport 'Ecosystem health: exploring the territory' Ecosystem Health 1, 1995), 5–13 .

A restored pathway along Calgary's bow river after the floods – davebloggs007 Flickr CC

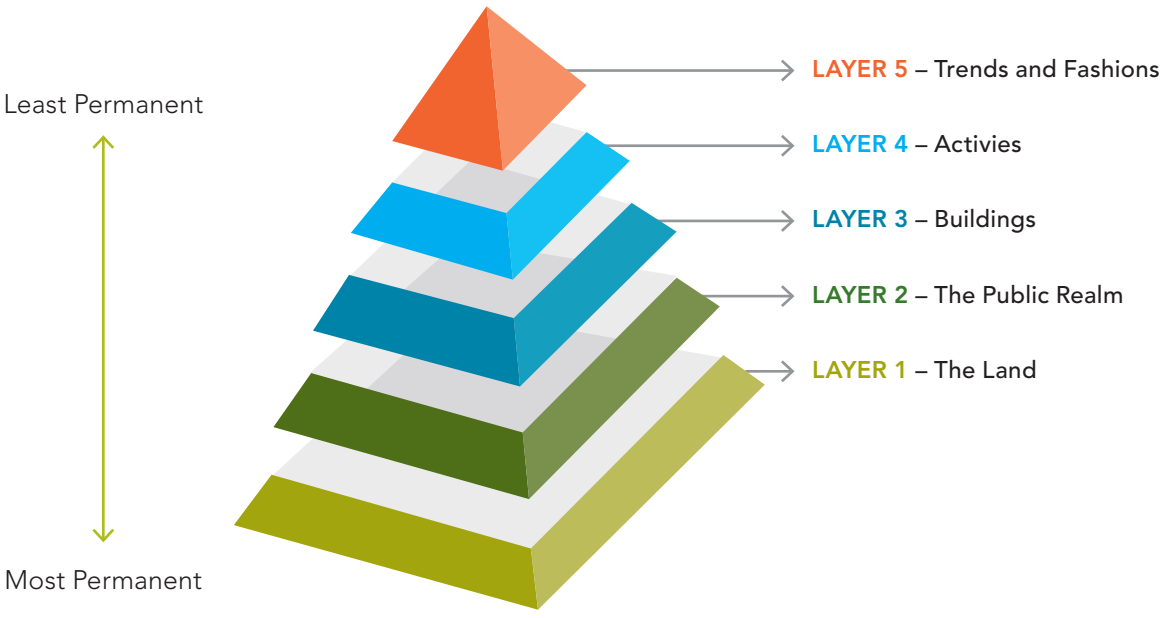
It's important, however, that park landscapes and vegetation make sense given an area's specific climate. For example, in Calgary, what is often forgotten when flood events occur is that we are in fact living in a dry prairie landscape where water is the limiting factor to plant growth, and this calls for careful decisions in the selection of plant material. We continue to allow development that is in conflict with local and regional environmental constraints, such as mown turf grass and ornamental vegetation requiring regular irrigation. The design approach and vocabulary of parks and domestic landscapes should be radically re-thought.

A LANDSCAPE APPROACH

Have our approaches to park planning and our methods and techniques kept pace with our values of sustainability, resilience, and ecological integrity? Are they sufficient to address the challenges of the 21st century, such as the uncertainties of climate change?

Our current values and the needs of today require a renewed approach to environmental design and different ways of conceptualizing parks and park systems. It is likely that a new convergence of interests in a high-quality public realm, and in public health and sustainability, will help to further the agendas of good environmentalism and good urbanism. We are in a transitional state, becoming a different kind of city in many ways, with our tools and techniques needing to evolve as well.

By examining the layers of urban infrastructure, we can understand the important role that parks and the public realm play in shaping our cities. It seems that we have placed more value on the less permanent layers, such as buildings and decoration, rather than on the more permanent layers of landscape, parks, and public space. Parks exist at the intersection between landscape and the public realm and constitute the deepest layers of urban infrastructure.[9] They are essential and fundamental, and we need to elevate their importance in our value system and also in our planning process. Viewed as part of the permanent infrastructure of the city, parks cannot be viewed as afterthoughts, or as frills. They need to be understood as foundational for the city, and therefore deserving of higher profile and increased emphasis in budgets.



Pyramid of permanance in the built environment – Sandalack and Nicolai

[9] Beverly Sandalack and Andrei Nicolai (2006), 184-7.

Layer 1 – The Land

Landscape is the most permanent aspect of the built environment, with the greatest potential to contribute to ecological health and a sense of place. Careful attention to topography, natural features, views, and connections can help to create memorable places with a strong foundation for further development that responds to natural processes. Good urbanism is good environmentalism.

Layer 2 – The Public Realm

The public realm—the shared city spaces made up of streets, squares, parks, and plazas—is one of the most important components of city infrastructure and is part of its connective tissue, providing space for circulation and gathering and helping to define the city image. Much of our daily life occurs within it. Once established, things like block patterns, designation of land uses, and creation of public spaces are very difficult and costly to redevelop, or unlikely (in the case of attempting to convert a park to another use) to change.

Layer 3 – Buildings

Buildings are the most visible part of the urban environment, but not the most permanent—several generations of buildings will come and go within the life cycle of a city. Public space is largely shaped by the buildings around its edges. The outsides of buildings form the inside wall of the public realm, so all buildings therefore have a responsibility to positively shape public space.

Layer 4 – Activities or Program

Each individual building, and each neighbourhood, if it has a resilient form, may be used for various activities or programs. Cities are at their best when there is a mix of uses, housing types, and people, and where they provide more opportunity for adaptation and continuity.

Layer 5 – Trends and Fashions

The least permanent aspects of the built environment, and of design activity, are ephemeral trends and fashions, including elements such as public art. These add qualities of delight to the built environment and reference contemporary culture, and they can help to express the sense of place by reflecting environmental features or conditions.

APPROACHES FOR THE 21ST CENTURY

If the landscape and the public realm are to be properly considered as the most permanent parts of the built environment, then they need to be considered first in urban planning and development processes, and never as afterthoughts.

Theories, tools, and techniques from landscape ecology and urban ecology, combined with more recent understanding of ecosystem services, could be combined in order to view parks and park systems as green infrastructure, where landscape and the public realm powerfully intersect.

Landscape and urban ecology principles can provide bold solutions to the big issues of today. Responses to climate change, amount of tree cover, public health, and decisions regarding flood plains are all problems that should be addressed in ecological terms. Parks and open spaces should be understood as part of connected urban ecosystems rather than discrete spaces.

Parks and open spaces therefore need to be thought of as more than just "green space", a term that suggests a benign area with mown grass and ornamental plantings. They are part of a more structurally complex environment.[10] In addition to their ecological role, they have profound social and public health values, and play a huge part in shaping the identity of neighbourhoods and cities.

Ian McHarg proposed that environmentally sensitive areas either remain in their natural condition, or be returned to that condition. He claimed that this single technique could address water quality, quantity, flood and drought control, and lead to "an immeasurable improvement in the aspect of nature in the city, in addition to the specific benefits of a planned watershed. No other device has such an ameliorative power."[11]

Corktown Common in Toronto

[10] A Jorgensen and PH Gobster 'Shades of green: measuring the ecology of urban green space in the context of human health and well-being' in Nature and Culture 5(3), (Winter 2010), 338–36).

[11] Ian McHarg 'The Place of Nature in the City of Man' in To Heal the Earth, Selected Writings of Ian L. McHarg eds. Ian L. McHarg and Frederick R. Steiner, Island Press 1998), 35.

This revitalization and expansion of naturalized systems is the kind of big idea that could provide a bold framework for park systems. Calgary's river path system, its premiere public space network, was proposed numerous times over the course of the city's evolution, but did not come into being for a century. Toronto's extensive ravine system, which is currently the subject of a study to protect and enhance its ecology and utility, is another example of a large, complex natural landscape that is crucial to the environmental health of the city and has influenced much park and trail development. Open space systems take time to develop, and therefore making these fundamental moves should be done early to provide a proper framework upon which the system can evolve. Imagine if Calgary's river path system had been able to provide the foundation for the development of the parks system from the beginning.

This calls for changes in our professional practices, including a change in the focus of urban planning back to physical and spatial planning—the practice of planning with a deep understanding of local environments, urban forms, and landscapes—and away from socioeconomic and policy planning. This shift is now partly underway.

Over the past several decades, the design professions and city planning have grown apart. While various disciplines have been pre-occupied with staking out their individual jurisdictions, the public realm has been neglected. Architects too often focus on individual buildings and rarely consider the spaces in between, while landscape architects deal largely with site-specific and market-driven projects, and planners assume the role of land use administrator or policy maker.

Streetside garden in Vancouver

Parks and open space systems will not be addressed properly as long as the professions remain in silos. Emphasis on quality of urban form and urban life, on the role of parks and open space systems, and on the inter-relationship of scales of thinking, would help to promote more meaningful collaboration.

We have many building blocks for this approach:

1. Ian McHarg changed the way that environmental data was gathered and analyzed, demonstrating that physical planning and design should be based on a thorough understanding of the ecology of the area, together with human values.[12]

2. Landscape ecology as a field considers the urban structure in terms of a land mosaic, where landscape is understood as a network of patches and corridors. This approach provides a useful vocabulary for park systems, and helps to get away from thinking of individual parks as objects or discrete spaces.[13]

3. The language introduced by Kevin Lynch (1960) for understanding city form—as a system of paths, nodes, edges, districts, and landmarks—can also be helpful in understanding how to think about park systems as opposed to individual spaces.[14]

4. By combining the languages of landscape ecology and urban design, the city can be thought of as a fused system of urban and landscape, where parks and neighbourhoods are connected by corridors—like streets, linear greenways and rivers—within larger districts. It is within this fused system of urban and natural that habitats and species (including humans) can live healthily. Merging these vocabularies and theories also allows something typically thought of as purely "urban", such as streets, to be considered as a part of the urban ecological framework, and something thought of as purely "natural", such as the urban forest, to be considered as part of the city.

5. Michael Hough, in his detailed understanding of cities and the natural processes within them, proposed ideas of urban ecology as the basis for shaping cities, and also emphasized that in addition to increasing the amount of vegetated areas in the city, good design is key. Sheltered, well-defined, and well-treed spaces are much cooler in hot weather, and also greatly increase comfort in winter. These ideally should be in the form of a "fine mesh of small spaces, distributed evenly over the whole city", rather than relying only on a few large ones.

A trail through Toronto's Don Valley Ravine

[12] Ian McHarg Design with Nature (New York: Natural History Press, 1969)

[13] Richard Forman (2014)

[14] Kevin Lynch Image of the City (Cambridge, MA: MIT Press, 1960)

This understanding of the importance of green space as infrastructure and in the necessity of its even distribution across urban areas could elevate parks and open spaces to a new position of prominence.[15]

Landscape and the public realm should be the deepest layer of urban infrastructure—green infrastructure—and need to be established first, before roads, land subdivision, and building plans. Parks and open spaces are most effective—ecologically, spatially, experientially, and economically—when they are designed as inter-connected systems.

Green infrastructure can be defined as all of the "natural, semi-natural and artificial networks of multifunctional ecological systems within, around and between urban areas, at all spatial scales."[16] Reinforcing McHarg's notion of ensuring that environmentally sensitive areas are designated as part of the underlying open space framework, a green infrastructure approach integrates urban planning, conservation, parks planning, and public health.

Toronto's Ravine Strategy is an example of this type of thinking. "While aspects of the ravine system are addressed in a number of different City plans/strategies, regulations and bylaws, the City does not have a comprehensive strategy that brings all of these together and focuses specifically on ravines," states the City website.[17] The draft strategy, which is grounded in protecting the ecological integrity of the ravine system in an era of climate change and increasing pressure from urbanization, also contains directions for connecting people to the ravines' natural environments.[18]

If landscape, including parks and open spaces, can be considered as green infrastructure, then municipalities should incorporate practices that the urban ecology fields use "for measuring and managing urban land cover to maintain hydrological function, promote air quality, regulate microclimate, sequester carbon, and preserve species and habitat diversity."[19]

This requires a proper valuation of landscape and ecological function. The 'natural capital' of many places is often a major asset, where capital is understood as any resource that can increase economic opportunity. Natural capital means the resources that we rely on for life, provided by geology, soils, air, water, and all living organisms.

The notion that natural resources have capital value, leads to the concept of ecosystem services, which provides a way to evaluate parks and open space systems, determine their impacts, and then set measurable goals. Ecosystem services refers to "the benefits human populations derive, directly or indirectly, from ecosystem functions."[20]

De Groot et al. identified twenty-three ecosystem services that included biological, physical, aesthetic, recreational and cultural benefits. Many of them, such as climate regulation, water supply and aesthetic scenic properties, contribute directly to human health and wellbeing, but others, such as pollination and nutrient cycling, more indirectly contribute to sustaining ecosystems themselves.[21]

Understanding the deep value of our city's parks and natural landscapes, and the ecosystem services they provide, elevates parks and open spaces to a deserved position of importance and places them at a higher priority for investment.

[15] Michael Hough Cities and Natural Process. Routledge, 1995), 269.

[16] K. Tzoulas et al. Promoting ecosystem and human health in urban areas using Green Infrastructure: A literature review Landscape and Urban Planning 81, 167–178, 2007)

[17] See the City of Toronto's Ravine Strategy homepage for more: http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=91be0ba80120d410VgnVCM10000071d60f89RCRD&vgnextchannel=470bdada600f0410VgnVCM10000071d60f89RCRD

[18] City of Toronto, "Toronto Ravine Strategy Draft Principles and Actions" (2016), http://www1.toronto.ca/City%20Of%20Toronto/Parks%20Forestry%20&%20Recreation/03Trees%20and%20Ravines/Files/pdf/R/Ravine_Strategy_Draft_Principles.pdf

[19] David J. Nowak and John F. Dwyer 'Understanding the Benefits and Costs of Urban Forest Ecosystems' chapter in Urban and Community Forestry in the Northeast, 2nd ed., edited by J.E. Kuser (Springer, 2007)

[20] R. Costanza et al. 'The value of the world's ecosystem services and natural capital' Nature, 387 (1997), 253–260.

[21] R.S. De Groot, M.A. Wilson, R.M.J. Boumans 'A typology for the classification, description and valuation of ecosystem functions, goods and services,' Ecological Economics, 41 (2002), 393–408.

THREE KEY INSIGHTS

1

The planning and design of parks and open spaces through history have reflected the values that were held at the time, such as aesthetic criteria or demands for recreation.

Currently, our society places increased value on ideas of sustainability, ecological health, and the public health benefits we can derive from our built environment, creating the potential to view parks and open spaces as a much more comprehensive system that better reflects local climate and biodiversity.

2

Parks, where the landscape and the public realm intersect, are part of the deepest layers of urban infrastructure.

They need to be elevated to the highest levels of importance in our planning and budgeting process, reflecting their potential as an organizing principle, not as afterthoughts. Merging the theories and vocabularies of ecology and urban design could help to create the framework for such an understanding.

3

Park systems perform important functions in mitigating the effects of climate change and creating more resilient cities.

Understanding and measuring the ecosystem services these systems provide will help us better understand them as green infrastructure and prioritize investment.

WHAT'S NEEDED

In order for this landscape approach to the 21st century city to be realized, we need to address several urgent issues.

Climate change is going to have a profound influence on our physical environment and on our quality and way of life. The potential impacts need to be recognized and understood, and the role that parks and open spaces might play in increasing the resilience of our cities needs to be emphasized. This implies the need for changes in the education of future professionals as well as adaptation of our current methods, processes, and regulations.

We need a common vision for the future that emphasizes the importance of parks and open spaces for all people and all places. Integration of new theories and new practices should become a priority for municipalities as well as provincial and federal governments as a matter of urgency, so that parks are no longer considered as separate sites, but as a complex system. This calls for doing away with silo-focused organizations, and enacting a more comprehensive approach to parks and open space planning, design, and management that involves multiple disciplines and departments. Calgary's Urban Parks Master Plan and Toronto's Ravine Strategy are two examples of how the revitalization and expansion of natural systems can provide the framework for integrated parks systems.

Parks and open spaces require major investment and should be a priority in budgeting processes. The value of parks goes far beyond the aesthetic or recreational—the ecosystem services that they provide will help ensure our very survival.

Rosetta McClain Gardens in Toronto

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