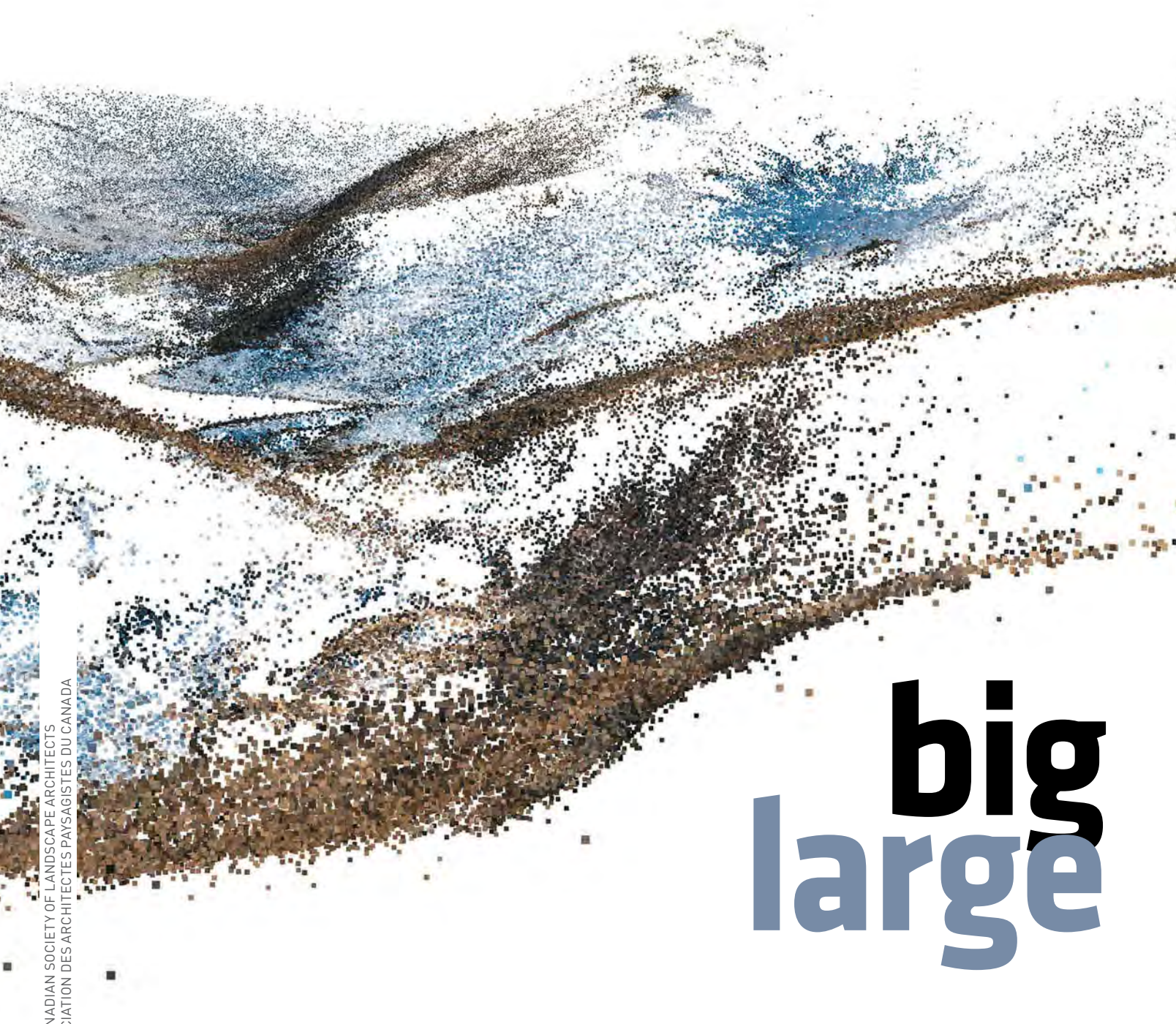


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Georgia, USA

Carl Steinitz et al

> Working Within A Nested Hierarchy of Scales
Douglas Olson

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EN_

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fall 17 | awards of excellence

deadline April 1

LANDSCAPES | PAYSAGES is published by the Canadian Society of Landscape Architects to provide a national platform for the exchange of ideas related to the profession. The views expressed in LANDSCAPES | PAYSAGES are those of the authors and do not necessarily reflect those of CSLA. Guest editors and contributors are volunteers, and article proposals are encouraged. Articles may be submitted in either English or French. For submission guidelines, contact editor Judy Lord.

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FR_

PROCHAINS NUMÉROS :

automne 17 | prix d'excellence

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LANDSCAPES | PAYSAGES est publiée par l'Association des architectes paysagistes du Canada pour servir de plate-forme nationale destinée à l'échange d'idées sur la profession. Les opinions exprimées dans LANDSCAPES | PAYSAGES appartiennent aux auteurs et ne reflètent pas forcément celles de l'AAPC. Nos rédacteurs invités contribuent bénévolement. Nous attendons, en français ou en anglais, vos propositions d'articles. Pour connaître les normes rédactionnelles, écrivez à la rédactrice en chef Judy Lord.

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LETHBRIDGE: THE OLDMAN RIVER VALLEY | LA
VALLÉE DE LA RIVIÈRE OLDMAN À LETHBRIDGE

PHOTO JAIME VEDRES





DOUGLAS OLSON,
GUEST EDITOR
RÉDACTEUR INVITÉ

“...it is at the broad scale where our interventions may have the most profound and lasting effect.” | « C’est à grande échelle, toutefois, que nos interventions ont l’effet le plus profond et le plus durable. »

DOUG OLSON

A NESTED HIERARCHY OF SCALES | UNE HIÉRARCHIE D’ÉCHELLES IMBRIQUÉES

EN_

OUR PROFESSION IS influencing the planning, design and management of land at multiple scales. While much of our practice is at a finer scale, the nested hierarchy of scales from the region to the site is the full field of landscape architectural work. Our ability to influence detail increases with finer granularity. However, it is at the broad scale where our interventions may have the most profound and lasting effect.

Landscape architects and planners, working at scales exceeding several square kilometres, are helping to *design* large rural, peri-urban and urban landscapes. Using public engagement, modelling, spatial planning and the pattern design of landscapes, we contribute to the *shaping* of rural and urban development, as well as the configuration of conservation and open space systems. We are helping to identify where to build and in what form, while at the same time, conserving the essential natural and cultural landscapes upon which we all depend. At the broad scale, there is never one author, and landscape architects continue to find innovative ways of involving multiple actors in the creation of large landscapes.

This issue of LANDSCAPES | PAYSAGES provides a sampling of our professional contribution to the planning, use and stewardship of broad scale natural and cultural landscapes. It is also a call to increase our role in the design of the physical form of large landscapes.

douglas@o2design.com

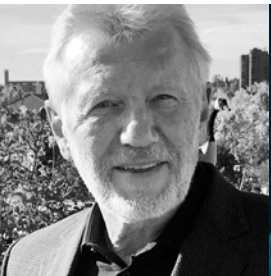
FR_

NOTRE PROFESSION INFLUENCE, à de multiples échelles, l’aménagement, la conception et la gestion des terres. Bien qu’une grande partie de notre pratique s’exerce à une échelle plus fine, la hiérarchie imbriquée des échelles régionales et locales constitue le vaste champ du travail d’architecture de paysage. Notre capacité à influencer le détail augmente avec une granularité plus fine. C’est à grande échelle, toutefois, que nos interventions ont l’effet le plus profond et le plus durable.

Les architectes paysagistes, travaillant à des échelles supérieures à plusieurs kilomètres carrés, aident à concevoir de grands paysages ruraux, péri-urbains et urbains. Grâce à la participation du public, à la modélisation, à l’aménagement du territoire et à la conception de motifs paysagers, nous contribuons à *façonner* le développement rural et urbain, ainsi qu’à la configuration des systèmes de conservation et d’espaces verts. Nous aidons à identifier les sites et modèles de construction tout en conservant les paysages naturels et culturels essentiels dont nous dépendons tous. À grande échelle, il n’y a jamais de maître d’œuvre unique, et les architectes paysagistes continuent de trouver des moyens novateurs d’associer plusieurs acteurs dans la création de grands paysages.

Le présent numéro de LANDSCAPES | PAYSAGES donne des exemples de notre contribution professionnelle à la planification, à l’utilisation et à l’intendance des grands paysages naturels et culturels. C’est aussi un appel à accroître notre rôle dans la conception de la forme physique des grands paysages.

1 2



3 4



6



9 10



11 12



13



OUR WRITERS | NOS RÉDACTEURS

1 DOUGLAS OLSON, as CEO of O2 Planning + Design, directs the firm's work in landscape architecture, regional planning, spatial modeling and landscape ecology. His professional focus is on the planning of urban and rural landscapes at multiple scales, and on the role of ecological infrastructure in determining sustainable patterns of development and conservation. He holds a Doctor of Design degree from Harvard University, where he has served as an instructor. He has worked in Africa, Central and South America, China, Colombia, Mongolia and Slovenia.
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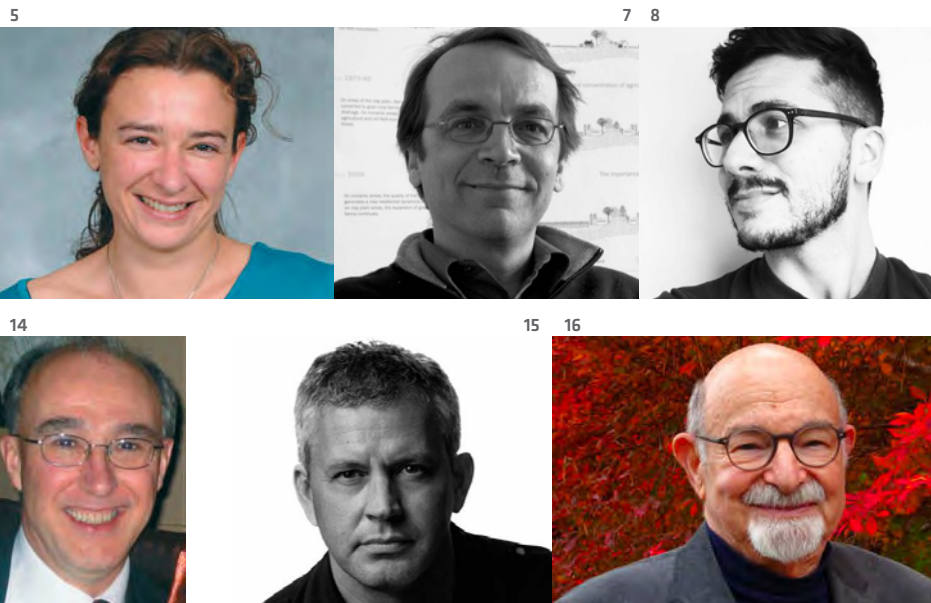
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14_DON HESTER is an Associate Principal and Senior Planner/ Landscape Architect with AECOM in Winnipeg. Over 35 years of practice, he has learned the importance of working with communities and other disciplines, and understanding not only a site's environment, but also its culture and history.

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15_ROB LEBLANC, FCSLA, is a self-confessed tech geek who is fascinated with the application of emerging technologies to landscape architecture and urban design. He is president of Ekistics Plan + Design in Halifax. Rob invites you to his Twitter forum. How will technology shape – and be shaped by – our profession?

Twitter: @landtecanada

16_CARL STEINITZ is the Alexander and Victoria Wiley Professor of Landscape Architecture and Planning Emeritus at Harvard Graduate School of Design, and Honorary Professor at the Centre for Advanced Spatial Analysis, University College, London. At the request of LP's Guest Editor, Doug Olson, he has shared his new research with LP readers:

> **LP+** Multiscale and Multijurisdictional Geodesign: Georgia, USA, by Carl Steinitz *et al.*

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> **LP+**

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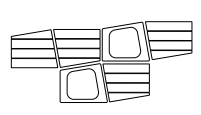
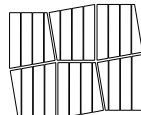
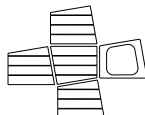
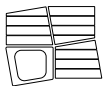


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...Douglas Olson



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SEE | VOIR P 28 : PHOTO KONGJIAN YU, TURENSCAPE



PETER JACOBS HONORÉ ET NOMMÉ

FR_ L'UNIVERSITÉ DE MONTRÉAL a rendu hommage, lors de la Collation des doctorats de 3^e cycle le 3 juin dernier, à 11 professeurs émérites, incluant Peter Jacobs, qui ont pris leur retraite et qui, au cours de leur carrière, se sont distingués tant sur les plans de l'enseignement, de la recherche et de leur participation au développement de l'Université que par leurs qualités de meneurs et leurs réalisations.

Lorsque Peter Jacobs s'est joint au corps professoral de la Faculté de l'aménagement, l'architecture de paysage était un champ totalement nouveau à l'Université de Montréal. Fraîchement diplômé en architecture et en architecture de paysage de la Harvard Graduate School of Design, Peter Jacobs a contribué à jeter les bases de cette dernière discipline tout en étant le premier directeur de l'École d'architecture de paysage, fondée en 1978. Peter Jacobs a axé ses recherches sur les enjeux liés au développement et à la conservation des paysages, s'intéressant dès le début de sa carrière au design de grands ensembles paysagers. En raison de son expertise, Peter Jacobs a été invité à siéger à plusieurs comités d'évaluation des programmes d'enseignement au Canada, en Israël, en Colombie, en France, en Chine et en Espagne. Peter Jacobs a également donné des cours intensifs et des ateliers de design dans plus de 50 universités sur les cinq continents.

Président de la Commission de la qualité de l'environnement Kativik depuis 35 ans et président émérite de la Commission de la planification environnementale de l'Union internationale pour la conservation de la nature, il a été élu membre de l'Académie royale des arts du Canada en 2015. Il s'est également impliqué, tout au long de sa carrière, auprès d'organismes professionnels, environnementaux et culturels.

Enfin Peter, professeur d'émérite de l'École d'urbanisme de paysage de l'Université de Montréal, a été nommé le 22 novembre, par le conseil municipal de la Ville de Montréal, au poste de président du Conseil du patrimoine de Montréal.

>EN_LP+ Peter Jacobs Honoured



A TREE GROVE FOR NAVY PIER

SHANE CARPANI

EN_ THE NAVY PIER has been a part of Chicago's history since 1916. With a century of summers and winters under its belt, it was about time that Chicago's most visited lakefront playground received a much needed makeover. The dynamic lakefront transformation, designed by landscape architecture firm James Corner Field Operations, incorporated the latest in ecological design, to create a tree grove promenade – a welcome oasis from the hard edges of the downtown. From the planted stands of mature Marmio maples and WOW American sycamores, visitors enjoy unfettered views of Lake Michigan in a more natural setting.

Due to the extremely heavy pedestrian movement and occasional vehicular traffic on Navy Pier, the 50-acre (20-ha) waterfront area required an engineered surface with structural stability, which could also provide a healthy growing condition for the trees that would be the pier's focal point. James Corner Field Operations specified the GreenBlue ArborSystem, which could support the paving stone surface while maximizing uncompacted soil volume below ground. Since Navy Pier is a slab-on-slab pier, the tree pits would be completely man-made with no natural earth below. The StrataCell® soil cell would provide 95 per cent void space for uncompacted soil around the trees. Landscape architects Jeffrey L. Bruce & Company specified the soil blend. The assembled ArborSystem matrix created a forest-like subsurface environment with tree-friendly soil volumes for the already mature trees: some had root balls up to eight feet in diameter. Since the StrataCell is able to withstand up to 9 tonnes per 20" x 20" module, the landscape architects and engineers were assured that the underground growing medium was not affecting the structural stability of the surface. And for the maples and sycamores, life on Navy Pier is very good indeed.

SHANE CARPANI is the Manager of Content Strategy at GreenBlue Urban, which provides solutions for urban tree planting and stormwater management. GreenBlue developed the world's first tree planting soil cell in 1992. shane.carpani@greenblue.com

ON CHICAGO'S NAVY PIER, TREE PITS ARE COMPLETELY MAN MADE WITH NO NATURAL EARTH BELOW.

PHOTO GREENBLUE URBAN

HOLY MACKEREL! WITH WAVES AND WHALES...

SUE SIRRS

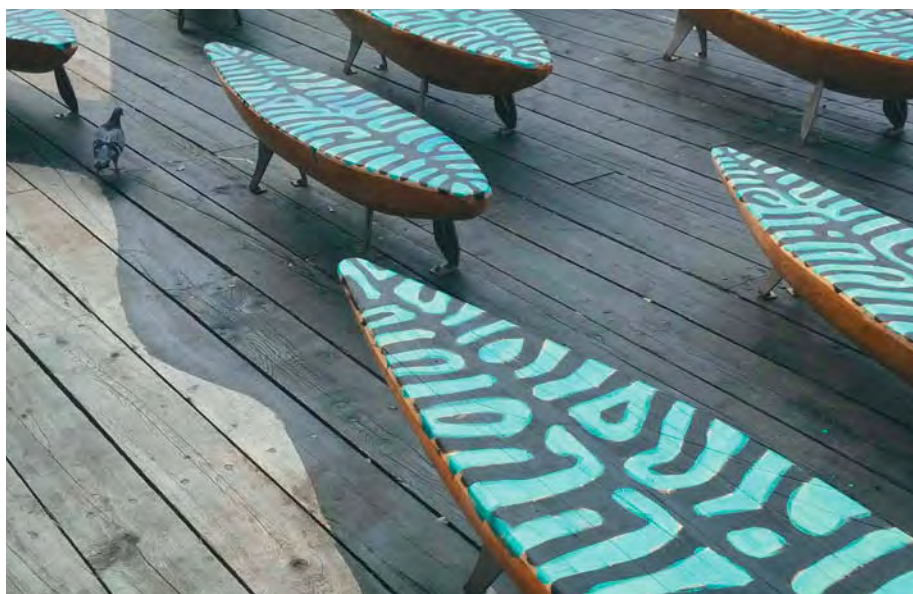
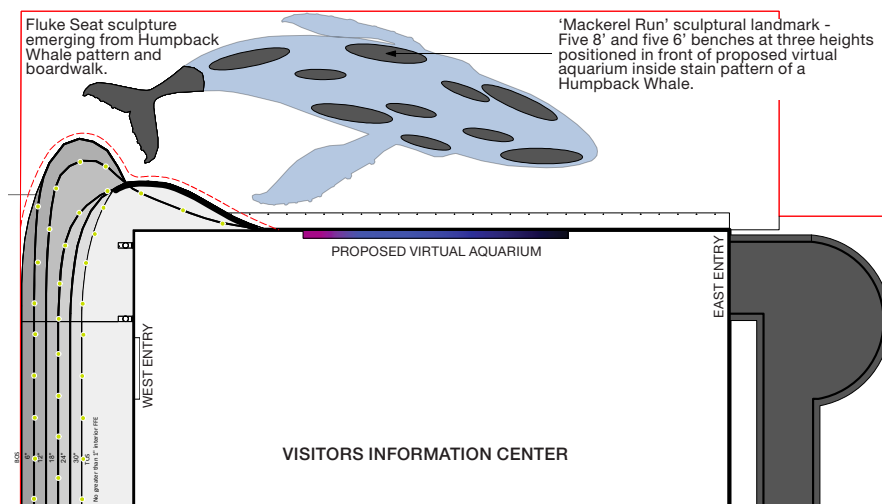
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ON THE BOARDWALK along the Halifax waterfront, a trio of installations tells an Atlantic-inspired story, and it is the details that most evocatively bring it to life. Check out the mackerel-shaped benches beside the Visitor's Information Centre, for example. The benches' vivid black and blue banding mimics that of real-life mackerel, who use these bands to communicate their location when they swim together in schools. Jamie Clarke of Outside! Planning and Design Studio hand-painted those bands, and their artistic vigour has helped create a major landmark along the waterfront.

The story began to take shape in 2013, when the Waterfront Development Corporation needed to replace a failing ramp at the Visitor's Centre. Outside! completely re-envisioned the entry, adding decking in a custom designed hatch pattern, and undulating wave seating in sea blue, lit with an array of LEDs that imitate the play of light on water. Throughout daylight and evening hours, the contours beckon passers-by to come and sit awhile, watching the Harbour. The exotic mackerel migrate through Harbour waters, as does the majestic humpback whale, with whom mackerel have a symbiotic relationship. Since Halifax is planning a virtual aquarium on the north side of the Visitor Centre, Outside! created a sculptural custom humpback whale fluke, in aluminum, which emerges from the boardwalk. Spread over the whale's painted silhouette is a "school" of oversized mackerel benches, fabricated locally. Of course, as mackerel do, they come in several sizes.

sue@outsideplanning.com

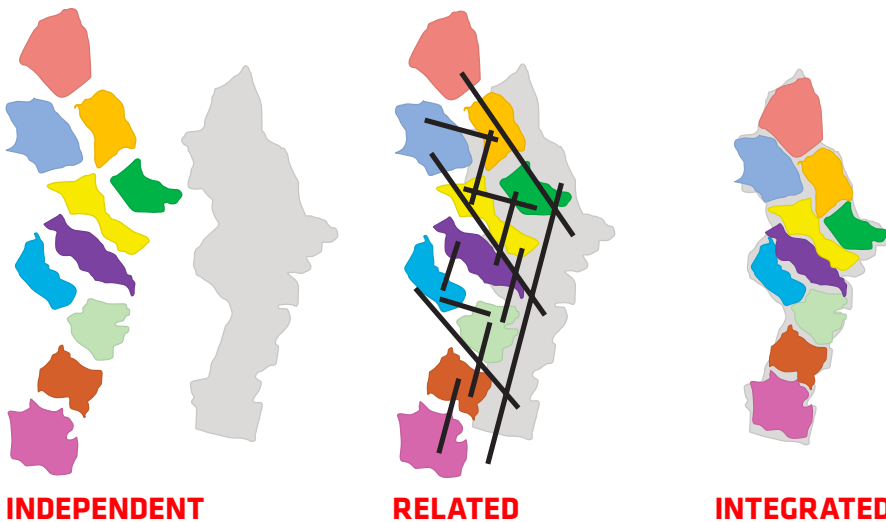
1 "MACKEREL RUN" SCULPTURAL LANDMARK **2** NEW WAVE SEATING, WHALE FLUKE AND "SCHOOL" OF MACKEREL BENCHES **3** JAMIE CLARKE HAND-PAINTED THE MACKEREL'S BLACK AND BLUE BANDING | **1** LE MONUMENT SCULPTURAL "MACKEREL RUN" **2** BANCOS NOUVELLE VAGUE, QUEUE DE BALEINE ET «BANC» DE MAQUEREAUX. **3** JAMIE CLARKE A PEINT À LA MAIN LES BANDES NOIRES ET BLEUES.



...

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>LP+



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DIAGRAM OF THE METHODOLOGICAL APPROACH SHOWING INDIVIDUAL COUNTIES, BETWEEN-COUNTY NEGOTIATION, AND A SINGLE NEGOTIATED REGIONAL DESIGN.

■■■

CONGRESS of the WORLD DESIGN SUMMIT MONTREAL 2017

LANDSCAPE ARCHITECTURE IFLA CSLA AAPQ

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RON MIDDLETON

THE NEXT WAVE OF DREAMERS?

Alberta's Special Areas are home to the most unforgiving grassland in the province. | Les zones spéciales de l'Alberta sont parmi les prairies les plus ingrates de la province.

FR_ RESUMÉ

LA PROCHAINE VAGUE DE RÊVEURS?

Ron Middleton nous entraîne dans un panorama historique des zones arides de l'Alberta. Il retrace les erreurs de ceux qui ont attiré les colons et les rêves perdus de ceux qui sont venus. Il revoit les périls de la pensée magique fondée sur une lecture catastrophique du paysage et, à la lueur des leçons historiques, examine le Projet d'irrigation des zones spéciales pour voir s'il va dans l'intérêt du public.

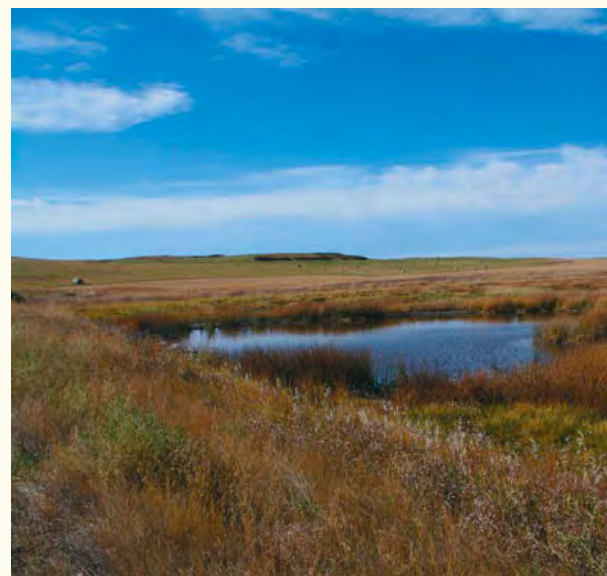
EN_

I AM AT home on the prairie. I welcome the piercing sunlight, the dry wind, and the smell of dust and sage. I delight in the endless skies and the landscape where a person stands as an exclamation mark against the horizon.

East of the Drumheller badlands, extending to the Saskatchewan border, there is an area that few people, even Albertans, are familiar with. This is a uniquely administered zone, the Special Areas, the name a remnant of its history. It is some of the most unforgiving landscape in the province and tells a story of tragedy and loss, false hopes and shattered dreams, tenacity and adaptation. These stories are written in the landscape and are plain to those who know how to read it.

JUMBLED LANDSCAPE THAT SPEAKS

The jumbled landscape pockmarked with a myriad of pothole sloughs speaks of glacial history. The moraines are rich and diverse areas supporting an abundance of plant and animal species. The intermittent streams provide ribbons of riparian habitat running



1

through the outsized post-glacial valleys. They drain into large saline wetlands that during wet periods team with waterfowl and in dry times totally disappear. The shallow-rooted upland grasses are evidence of the hardpan layer of the solonchic soils that lies beneath. The cattle grazing on these grasses never wander far from a water source.

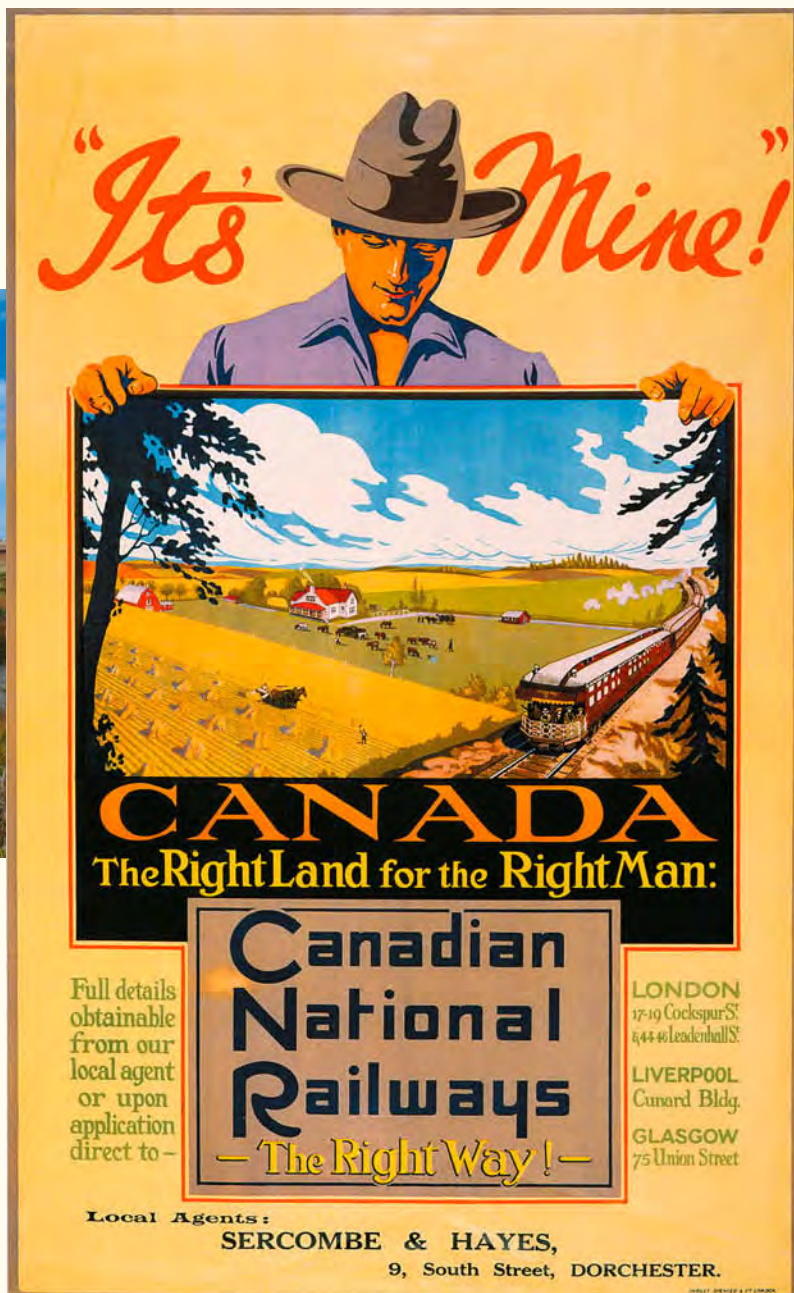
As harsh as this environment appears, on undisturbed grassland knolls and valley terraces there are stone circles, cairns and bone beds reminding us of the people who used to inhabit this place. Their deep understanding of the landscape and bison-based economy allowed them to thrive here for thousands of years.

WAVES OF DREAMERS

Their way of life was swept away in a matter of decades with the extermination of the bison herds and the implementation of reserves. The first settlers who followed were ranchers. They saw cattle as the natural successors to bison. Theirs was a very low management style of ranching where the animals were turned out to graze

1 ESTHER HAY MEADOW 2 CANADIAN NATIONAL RAILWAYS [CA. 1920-1935]; ORIGINAL ARTWORK BY G. ATTEWELL | 1 LE PRÉ ESTHER HAY MEADOW 2 CANADIEN NATIONAL [CIRCA 1920-1935]; DESSIN ORIGINAL DE G. ATTEWELL

PHOTOS 1 RON MIDDLETON 2 GLENBOW ARCHIVES, POSTER-18



I welcome the piercing
sunlight, the dry wind,
and the smell of dust
and sage. | J'accueille avec
bonheur le soleil qui perce,
le vent sec et les odeurs
de poussière et de sauge.

on large tracts of land and rounded up when it was time to take them to market. But cattle were not as well adapted to the extremes of this land as the bison. In the winter of 1906, over two thirds of the cattle herd perished. This shook the cattle industry and paved the way for the next wave of dreamers.

Although the report of the 1857-1860 Palliser expedition and others had found the area unsuitable for cultivation, the railroad and eastern industry needed western settlement. The land was opened up to homesteading under the same rules that had been used elsewhere on the prairies. It was vigorously promoted by the CPR and the Government of Canada. Methods of agriculture developed in the east and totally unsuited to the landscape were espoused.

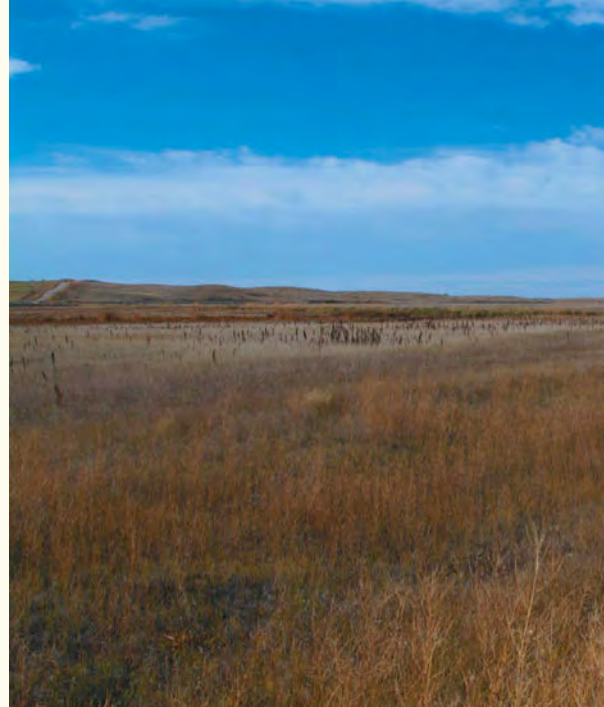
FATE, SEALED

A year as extreme in its own way as the winter of 1906 sealed the fate of the region. It was 1915, the First World War. Wheat was needed and commanding a high price. In the Special Areas, the rain came early and fell with uncharacteristic frequency throughout the summer. The newly broken soil, full of organic matter, soaked up the rain and gave up its nutrients producing a bumper crop. This anomaly gave proof to the lie of

...topsoil that ... had taken 10,000 years to develop was stripped off by the wind in weeks.



3



4

the promoters resulting in an explosion of settlement and development. By 1919 it was all over. The population had peaked; it has been dropping ever since.

When the rain stopped and the land dried out, topsoil that should never have been cultivated and had taken 10,000 years to develop was stripped off by the wind in weeks. Thousands of farms and entire towns were abandoned. When the farms failed the municipal governments collapsed, requiring the provincial government to step in and create board-governed districts – Special Areas.

Abandoned farmsteads, unfinished rail lines, and ghost towns speak of the shattered dreams. The degraded farm fields with the prevalence of alien grass species imported in an attempt to stop the soil drifting, are clearly visible in today's satellite imagery, and reveal the extent of the environmental disaster.

In the succeeding decades, farms were consolidated and land revegetated. The area has returned to ranching with only the most productive soils remaining in crop. Hundreds of small dugouts and impoundments have been built to capture the intermittent runoff to provide water for the herds. The current inhabitants and their herds have learned to live with the realities of this landscape, yet they are still susceptible to extended drought, which is expected to become more frequent with climate change.

NOTIONS OF DIVERTING WATER

The notion of diverting water to the Special Areas for irrigation and other uses was first voiced in the 1920s and again in the 1930s.

Irrigation projects had brought stability and prosperity to large areas of southern Alberta. Issues of cost and of technical feasibility prevented its implementation at that time. As it turns out, that was a very good thing. The limitations of most of the soils in the Special Areas were not yet understood and irrigation of much of this land would have resulted in yet another ecological disaster.

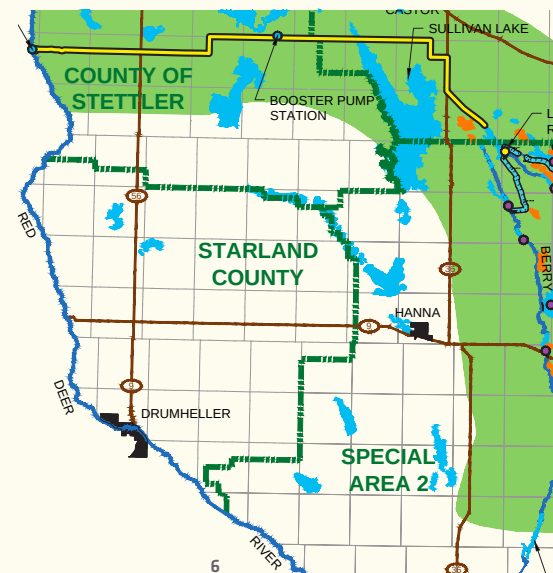
By the early 1980s the Government of Alberta was revisiting the potential for bringing water to the Special Areas. This time the focus was on supplying water to support the livestock industry along with a modest amount of irrigation on the relatively small areas where the soils were suitable for long-term irrigation. Several rounds of technical studies, consultation and review were undertaken and the project was revised and honed down. In 2011, my firm was engaged to coordinate the environmental impact assessment for the Special Areas Water Supply Project and take it through Alberta's regulatory public hearing process that will determine if the project is in the public interest. The hearing is expected to place in 2017.

SPECIAL AREAS PROJECT

Although much reduced from its original conception and modest by comparison with major irrigation projects, it is still an extremely large and complex project. It is a water supply system that would take water from the Red Deer River and distribute it for use across two rural counties and three board-governed special areas. The project would include a pumpstation and 100 km pipeline,

two major reservoirs, 14 multi-use projects (backflood irrigation of forage crops, wetland habitat, stockwater), and distribution along 350 km of stream channel, of which 57 km may require stabilization.

The project is intended to mitigate drought by providing a stable supply of water even in dry years. This should encourage optimum management of grazing land by allowing cattle to be spread over the landscape, rather than remaining clustered around a few water sources. The project would provide wetland habitat when the natural prairie potholes and lakes are dry. It would permit a modest amount of irrigated hay and feed crop to augment the native and reclaimed grassland.





THAT DEEP UNDERSTANDING OF PLACE

Early in my career I was inspired by Ian McHarg's belief that landscape architects are particularly suited to lead teams in such studies since we are the only design professionals with training in the natural sciences. We can help team members communicate with each other, integrate the diverse information into a coherent product and communicate that information to the public and regulators. That is true, but I have also learned that besides being competent administrators and good communicators, there is more that landscape architects can bring to a project of this scale. Fundamental to our profession is an understanding that – integral to any project – is consulting the genius loci, gaining a deep understanding of place.

As with the layer cake approach to landscape analysis and planning championed by Ian McHarg, environmental impact assessment methodology uses technical experts to deconstruct the landscape into its constituent components - bedrock geology, surficial geology, groundwater, soils, etc. Each is assessed

Fundamental to our profession is an understanding that, integral to any project, is consulting the genius loci, gaining a deep understanding of place. | Notre profession se fonde sur l'idée selon laquelle, dans n'importe quel projet, on doit acquérir une compréhension profonde de l'esprit du lieu.

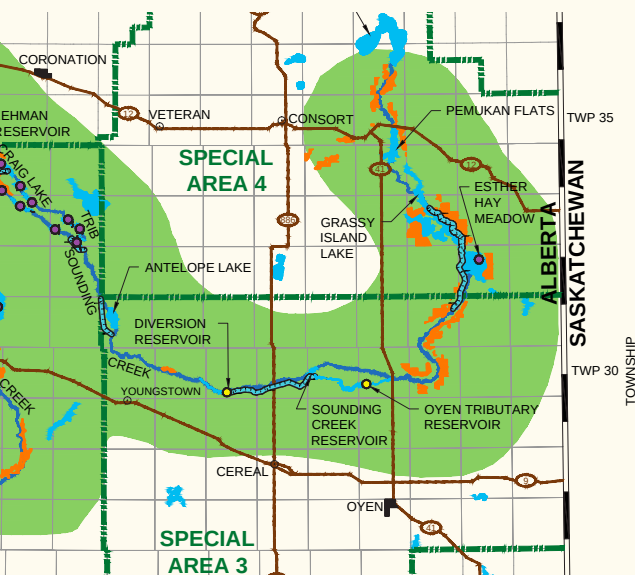
individually. The individual assessments are combined in a scoring scheme to determine overall project impact.

While the approach is comprehensive and methodical, it risks gaining information at the expense of understanding. There are patterns in the landscape that can be lost when we focus on the constituent parts. If you have an understanding of a landscape, the environmental issues related to a development are generally obvious from the start. The subsequent assessment work is often a painstaking exercise in demonstrating the obvious.

Based on an understanding of the landscape and its people, the team leader must provide the narrative for the technical team. It is the leader's job to provide focus for the environmental studies and ask the questions that need to be answered in the analysis.

The key question at the public hearing will be, "Is this project yet another product of wishful thinking: selling the community a dream that is neither economically nor environmentally sustainable?" Early concepts for this project had a vision of large areas of irrigation that disregarded the limitations of the soils of the area and the water requirements. The project we will place before the panel is much more modest and rooted in the reality of the region. We hope we have asked the right questions of the land and attended to the answers.

ronaldmittleton@shaw.ca



3 APPROACHING DUST STORM, 1937 4 GRASSY ISLAND LAKE 5 BERRY CREEK 6 SITE PLAN: SPECIAL AREAS WATER SUPPLY PROJECT: ENGINEERING CONFIRMATION STUDY | 3 TEMPÊTE DE POUSSIÈRE IMMINENTE, 1937 4 GRASSY ISLAND LAKE 5 BERRY CREEK 6 PLAN DU SITE : PROJET D'IRRIGATION DES ZONES SPÉCIALES : ÉTUDE DE CONFIRMATION

PHOTOS 3 GLENBOW ARCHIVES NA-4292-11 4 + 5 RON MIDDLETON 6 KLOHN CRIPPEN BERGER

DOUGLAS OLSON, GUEST EDITOR | REDACTEUR INVITÉ

DESIGN AT THE BROAD SCALE

ECOLOGICAL URBANISM TO LANDSCAPE REGIONALISM

“Design, particularly at the broad scale, is ultimately a political act.”

>FR_LP+
LE DESIGN À VASTE ÉCHELLE

EN_
DESIGN, PARTICULARLY AT the broad scale, is ultimately a political act. Who designs our urban and regional landscapes? At what scale? On what basis? For whom? Through whom? Who benefits? Who pays? How are decisions to change landscapes made? How are landscape architects supporting those decisions and at what scale? These are the fundamental questions for emerging landscape architectural practices today.

The standard of living for many has been considerably enhanced over the last half century. But at the same time, soil productivity has been lost, water resources threatened, biodiversity reduced, and cultural landscapes homogenized. The Food and Agriculture Organization of the United Nations (FAO) reports that 33 per cent of all global land is moderately to highly degraded due to erosion, salinization, compaction, acidification and chemical pollution of soils. The World Bank estimates that both fresh water and the amount of arable land per person has decreased by 40 per cent in a half century. On a similarly blue note, the World Wildlife Fund estimates a 52 per cent drop in populations of mammals, birds, reptiles, amphibians and fish since 1970.

At these rates, time is running out and we need to change our current trajectory. While solutions are required at all scales, the stakes are highest in large regional landscapes. We landscape architects need to intensify our participation at the

broad scale and our universities need to nurture emerging professionals to take a coordinating role in shaping large urban and rural landscapes.

LET'S BE CLEAR!

Landscapes are the result of society's aggregate actions in shaping land over time and space. They do, of course, reflect the work of designers and planners, but they are primarily the product of natural and cultural processes interacting with ordinary people doing ordinary things. We must engage this broad constituency, many of whom are well aware of the urgency of the issues facing our rapidly changing planet.

Over the last two decades, the discourse on landscape urbanism, ecological urbanism and more recently, so-called projective ecologies, has cast additional light on the need to integrate ecology within the design process, leading to multifunctional, resilient landscapes. While these ideas are hardly new, much of the critical discourse articulating the landscape urbanist agenda is mired in obtuse rhetoric that clouds the important underlying themes. If the ecological urbanist agenda is to have meaningful influence – as it should – it must be clearly understood by those who both make changes to, and approve, landscapes.

TECHNOLOGY ENABLES BROAD SCALE DESIGN

Technological and scientific advances have made the design of entire regions a possibility. Improvements in remote sensing, GIS, modelling, landscape analysis and visualization, together with measurable performance indicators, allow us to understand cross-scale implications, and to better inform decision-makers and engage the public. New GeoDesign methods where GIS analysis and computer modeling are tightly coupled

with planning and design solutions, are radically enabling our design processes, while at the same time, providing greater transparency, stakeholder participation and accountability.

THE MOST IMPORTANT DESIGN SCALE IS THE CITY REGION

As most short term changes affect smaller areas, and most long term changes affect large areas, I would argue that the most important design scale of our time is the city region, an area where few landscape architects practice, but where the impacts of our designs may last centuries.

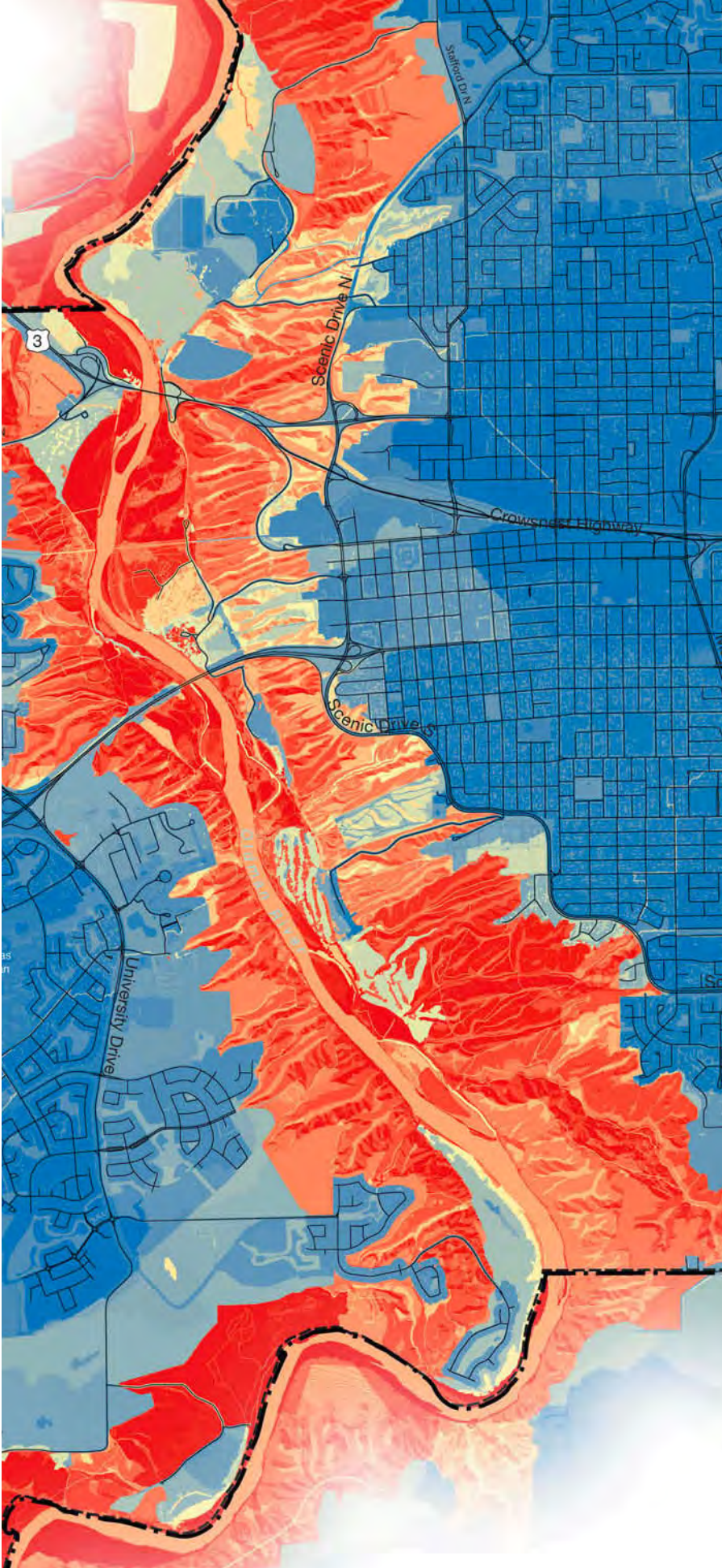
At the broad scale, our design methods must emphasize the interconnected nature of ecological *and* social processes and use landscape to provide the integrated organizational structure for urban and regional form. Land-use and urban growth management plans, transportation plans, open-space and conservation strategies, climate adaptation plans, forest and water management must all come together to support resilient and multifunctional urban regions. What they have in common is landscape.

EVERYTHING HAS A CONTEXT - A NESTED HIERARCHY OF SCALES

Some landscape urbanists state that landscape architecture is purely an urban construct. However, our professional ability to address the integration of science, societal engagement and design within a range of scales from the site to the region, belies this argument. While ecological urbanism promotes the crucial linkages between the scientific process and the art of making, this must be combined with a landscape regionalism approach where the interrelationships between pattern, process, multi-functionality and scale are fully considered.

URBANISM WRIT LARGE; AN ENVIRONMENTALLY SIGNIFICANT VALLEY SHAPES THE CITY IN LETHBRIDGE | L'URBANISME ÉCOLOGIQUE EN TOUTES LETTRES; UNE VALLÉE IMPORTANTE SUR LE PLAN ENVIRONNEMENTAL FAÇONNE LA VILLE DE LETHBRIDGE

IMAGES 02 PLANNING + DESIGN



... the most important design scale of our time is the city region, an area where few landscape architects practice, but where the impacts of our designs may last centuries.

Everything has a context: the site to the community, the community to the urban district, the district to the city, the city to the region. Hierarchy theory indicates that while individual elements have their own stability, each landscape element is linked to the next higher level, to other proximal elements at the same scale, and to component elements at the next finer scale. At the broad regional scale, the context is usually not urban, but more commonly, the transformed ecologies of managed forest, grassland and agrarian landscapes. This nested hierarchy of scales from the region to the site is the full field of landscape architectural work.

O2, like many other firms featured in this issue, works at all scales, and within this nested hierarchy of scales, we place emphasis on ecological urbanism combined with landscape regionalism. We invite you to explore four Southern Alberta projects at varying scales, which are described and illustrated in LP+.

douglas@o2design.com

TO GET THE BIG PICTURE > LP+
The South Saskatchewan Regional Plan
Calgary Metropolitan Plan
Lethbridge River Valley Parks Master Plan + Sustainability Plan
East Bowman Natural Environment Park



HOLLY RICHARDSON

“WHAT HAPPENS HERE DOES AFFECT THERE.”

FR_ RESUMÉ

CE QUI SE PASSE ICI SE RÉPERCUTE AILLEURS

EN 2014, HALIFAX a commencé à concevoir ses paysages et aires libres comme un système régional interconnecté. La ville a lancé le Halifax Green Network Plan en collaboration avec O2 Planning + Design. Le plan fait ressortir l'équilibre durable entre le paysage naturel et la vie urbaine, grâce aux recherches scientifiques et aux consultations destinées à voir où se trouvent les aires libres, à quels endroits l'équilibre écologique est compromis et à quels autres les contraintes du développement doivent être gérées. En reconnaissant le fonctionnement interconnecté des eaux, des terres et des espaces verts urbains, les urbanistes d'Halifax font un pas intellectuel majeur : les paysages ont un rôle structurant dans la croissance durable.

1 FOGGY HARBOUR PROSPECT BAY, NOVA SCOTIA
2 100 WILD ISLANDS, COASTAL WILDERNESS, NOVA SCOTIA
3 HALIFAX HARBOUR, MULTI-FUNCTIONAL OPEN SPACE LANDSCAPE
4 HALIFAX-DARTMOUTH, URBAN OPEN SPACE NETWORK

PHOTOS **1** JIM LINDSEY IMAGE **2** NICK HAWKINS, NOVA SCOTIA NATURE TRUST **3** HALIFAX REGIONAL MUNICIPALITY **4** HALIFAX GREEN NETWORK PLAN, O2 PLANNING + DESIGN

EN_

THE HALIFAX REGIONAL Municipality (HRM) was born out of an amalgamation of four local governments two decades ago and while the marriage has had its ups and downs, planners have embraced the ability to plan at a regional scale.

With much of the landscape still in a natural state, sustainable growth is at the core of Halifax's Regional Planning Strategy. The region spans over 6000 square kilometres with 2600 kilometres of coastline. At its eastern end is a remarkable collection of 100 coastal islands, a virtually untouched archipelago of beaches, boreal rainforests and estuaries. These islands are the focus of a preservation campaign led by the Nova Scotia Nature Trust. At the western end, iconic coastal villages and rural communities have grown up with a world-class natural landscape at their doorstep. At the Region's urban centre, the Halifax Harbour defines a strong cultural and working landscape.

The communities share a deep and profound connection to the land and an acute awareness that the landscape is changing. Although Halifax still enjoys an exceptional, bio-diverse ecosystem, landscape fragmentation and loss of

natural cover threatens the long-term health of vital natural systems.

NEW THINKING

In 2014, the City launched the Halifax Green Network Plan (HGPN) and began, in collaboration with O2 Planning + Design, to think more broadly about its landscapes and open spaces as an interconnected regional system: a multi-functional green network incorporating both natural systems and working landscapes, parks and corridors for recreation and community mobility, and the cultural landscapes and open spaces that shape community identity and form.

The HRM has a strong body of environmental policy and land-use regulation which has protected many important lands and waters, including riparian areas along watercourses and ecologically important parkland. The pieces, however, are a patchwork, not a system. Protection of broad-scale landscapes and ecosystems has been limited, and local planning for land-use, transportation and public lands is poorly integrated at the regional scale. This affects real connectivity and biodiversity.

With climate change at our doorstep and a community that is demanding more sustainable development, Haligonians



2



3

increasingly understand the need for more integrated and spatially refined landscape planning. The stewardship of our finite natural resources and ecological health is a community-wide responsibility. What happens here does affect there; today's decisions will affect tomorrow.

THE DOUBLE-EDGED SWORD

Halifax's settlement patterns, not unlike those of other cities across North America, have been characterized by suburban and ribbon development along collector roads. This has had a significant impact on habitat connectivity and broad-scale ecological flow, particularly within the commuter-shed. Although all of HRM's communities have together shaped the Region's highly valued natural and cultural identity, they struggle to balance economic opportunity and housing choice against the desire to protect their own distinct character. It's a double-edged sword that we see at play in local plans across the Region.

The negative cumulative impact of continuing sprawl is particularly evident at key pinch-point areas such as Halifax's Chebucto Peninsula, an ecologically intact landscape and regionally significant natural corridor, which has been largely cut-off from essential habitat to the north. Using the broader, more refined Green Network planning, however, the few remaining corridors on the peninsula have been identified using a GIS-based wildlife connectivity analysis to pinpoint functional linkages between core habitat areas. While such cases are alarming, Halifax is in an enviable

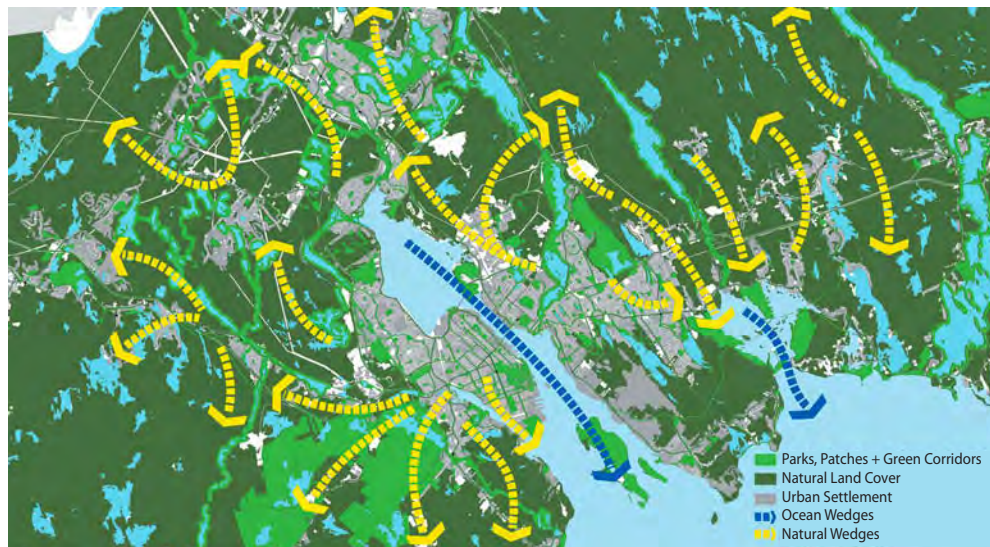
position to shift its collective thinking toward a truly balanced approach to conservation and growth.

LANDSCAPE SHAPING COMMUNITIES

The Green Network Plan emphasizes the sustainable balance between the natural landscape and urban life. It does this using science and consultation to assess where valued open space areas are located, where the ecological balance is upset, and where development constraints need to be managed. By recognizing the interconnected

functioning of the waters, terrestrial lands, and urban open spaces – those “blue, green and grey open spaces” – we see the larger picture, allowing us to better shape desired settlement patterns and development form. This represents an important shift in thinking: landscape provides the organizing structure for sustainable growth. Through a broader spatial understanding of the location, function and interconnectedness of essential landscape elements, we shape both natural and anthropogenic communities.

The communities share a deep and profound connection to the land and an acute awareness that the landscape is changing.



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...planning by nature can be a complicated maze to navigate.

NATURAL EDGES AND WEDGES

In settled parts of the landscape, *natural edges* contain and separate communities, giving them identity and form. Large open space areas known as *natural wedges* can penetrate into communities and connect them to the broader natural ecosystems. These natural edges and wedges work with other greenspaces and parkland to provide recreation and numerous ecosystem services to communities. Also critical are those sometimes nebulous but fundamental landscapes that protect cultural identity: they are recognized as essential landscape elements through cultural values assessment and mapping. Together, these diverse elements create a more connected, diverse and resilient open space system.

KEEPING HEALTHY AREAS HEALTHY

The interplay of ecosystems and human activity also requires careful attention to ensure that healthy natural areas stay healthy and broad-scale biodiversity and ecosystem functions remain intact. Halifax planners are using Richard Foreman's (1995) "Indispensable Landscape Patterns" approach, which is built upon four key criteria: large patches of natural vegetation; connectivity between large patches; vegetated corridors and riparian areas; and stepping stone patches of habitat.

One of the best examples of this concept is the 1600 hectare Blue Mountain Birch Cove Lakes Wilderness area at the edge of the Halifax's urban centre. Its protection began in 2009 when the province designated its Crown lands as a wilderness area. Then the Municipality recognized the area's potential as a future regional park: no large-scale development is permitted on the privately-owned portions of the site. When the land consolidation is complete, Blue Mountain Birch Cove Lakes will offer an exceptional nature experience incorporating an eight lake canoe route – and so much more. The wilderness area will preserve undisturbed water resources, wetlands, critical wildlife habitat and essential wildlife migration corridors, while containing urban development within sustainable limits.

Blue Mountain Birch Cove Lakes is a significant ecological investment, and it also heralds a new way of thinking about public open space conservation and management: advancing economic, cultural and ecological values in harmony. The same broad-scale vision applies as Halifax focuses on keeping working landscapes healthy: from forests and farms to the scenic landscapes that bring the tourists.

MAKING IT HAPPEN

The complexity of the Green Network initiatives cannot be underestimated. While the science is solid and the community will is strong, planning by nature can be a complicated maze to navigate. The region's plans, policies and regulations will need to be re-written and aligned. Municipal decision-making will need to be adjusted to incorporate a stronger ecosystems-based lens. Above all, the Green Network Plan will need to be tied to sector-based economic development and land development strategies to advance mutually beneficial objectives. Collaboration is the most powerful tool we have, and indeed the most difficult. The Green Network Plan is fundamentally re-shaping landscape planning and setting the stage for a new conversation.

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>FR_LP+ LES VILLES ÉPONGES :
À LA REDÉCOUVERTE DE LA
SAGESSE PAYSANNE

EN_
CONTEMPORARY CITIES IN general, and the new cities in China in particular, face severe water issues too numerous to mention. All degrade large swaths of the landscape, prompting countries to employ big, expensive solutions: from building extensive infrastructure such as flood walls and grand aqueducts, to laying thicker and thicker pipes underground, to constructing more sewage plants to clean the nutrient-rich water. Not only are these broad scale infrastructure projects exceedingly costly; they are also usually unsustainable.

An alternative is to find inspiration in the wisdom of peasantry, whose aquatic agriculture has transformed large landscapes for millennia. Right across the globe, groups of peasants have employed simple cut-and-fill techniques to enable massive crop planting. They have dramatically transformed the surface of the earth and successfully solved their biggest problem: survival.

For the peasant, cut-and-fill is one integrated action, not two: farming earthworks are created on site, and thus require minimum labor cost and minimum transport of material. Cut-and-fill enabled peasants to adapt landscapes at vast scales, using three modular landforms: terrace, pond, and pond-and-dyke.



1

PHOTOS 1-4 IN MONSOON CLIMATES, SIMPLE CUT-AND-FILL TACTICS INSPIRED BY PEASANT WISDOM TRANSFORM THE LANDSCAPES **1** THE FLOOD RESILIENT DESIGN OF YANWEIZHOU PARK DURING A 100-YEAR FLOOD **2** TERRACED RICE PADDIES **3 + 4** PONDS SERVING AS ESSENTIAL WATER CATCHMENTS IN HILLY LANDS | **PHOTOS 1-4** EN CLIMAT DE MOUSSONS, LA MÉTHODE SIMPLE DU DÉBLAI-REMBLAI INSPIRÉE DE LA SAGESSE PAYSANNE TRANSFORME LES PAYSAGES **1** LE PARC YANWEIZHOU, CONÇU POUR S'ADAPTER AUX CRUES, EN PLEINE CRUE CENTENNALE **2** RIZIÈRES EN TERRASSES **3 + 4** DES ÉTANGS RETIENNENT L'EAU PRÉCIEUSE EN TERRAIN VALLONNÉ.



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Peasants who lacked sufficient arable flat land created **Terraces** on sloping ground. In monsoon climate regions including Indonesia, Malaysia, the Philippines and southwest China's mountainous areas, terraces of rice paddies occupied vast territories.

More than 2000 years ago, the terraces were used in combination with **Ponds** to regulate flood and drought. An agricultural book from China's Han Dynasty suggests that for every 4 mu (1 mu = 666 square meters) of fields, one needs 1 mu for ponds. On sloping ground in monsoon regions, these water catchments are critical.

In river delta areas, **Pond-and-dyke** construction transformed swampy, flood-plagued riparian wetland into major productive landscapes, such as China's Pearl River Delta and the Yangtze River Delta.

In addition to these simple terrain transformation tactics that turn otherwise inhabitable hostile lands (such as dry slope or wet delta) into arable fields, peasants also employed crop rotation to maximize yield, beautifully sustaining humanity for thousands of years.

Ironically, these centuries-old productive landscapes have given way

to urbanization. Fine terraces are leveled into big planes called developable land; small ponds are drained and replaced with underground drainage systems; ponds and dykes give way to mechanical farming. The centuries-old ecosystem balance is broken, leading to flood, drought and habitat loss. Grey infrastructure haunts Chinese cities, while high maintenance landscapes with ornamental planting make broad scale landscape change unaffordable.

For almost two decades, we at Turenscape have been trying to revive the ancient wisdom of peasantry. Here we illustrate the results in four projects.

1

1. QUNLI STORMWATER PARK: A GREEN SPONGE FOR A WATER-RESILIENT CITY

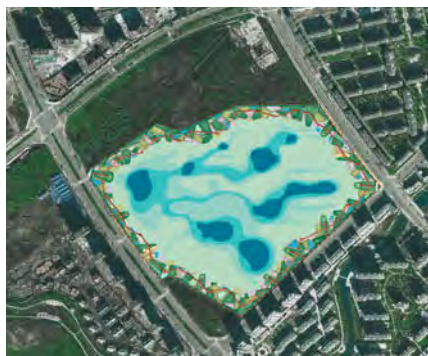
In mid-2009, Turenscape was commissioned to design a park of 34 hectares (84 acres) right in the middle of this new town. Although the park site is designated a regional protected wetland, it was under threat: the wetland is surrounded on four sides by roads and dense development, which severed it from its water sources. Our task was simply to preserve this wetland, but we proposed instead that we transform the area into an urban stormwater park. The benefits were clear: a park could provide multiple ecosystem services while offering the city dwellers an aesthetic public space.

But could this be done simply and economically in the middle of the city? We used peasant wisdom, employing cut-and-fill to create a pond-and-dyke system around the perimeter of the site. This filtering ring surrounds the central area, which was left alone to allow the natural habitat to evolve.

This minimum earthwork strategy transformed the site. The spongy ring is a transition between nature and the city. Its ponds collect stormwater from the newly-built urban area and then release it evenly into the wetland after it has been filtered. Native wetland grasses and meadows grow at various depths, initiating natural processes, and groves of native Silver Birch trees (*Betula pendula*) grow on mounds to create a dense woodland. A network of paths and skywalks links the ring of ponds and mounds, prompting visitors to experience a forest walk. Platforms and seats invite closer contact with nature.

Such a small change of terrain at the edge completely transformed the site, turning it into an ecological sponge that collects, cleans and stores stormwater, recharging underground aquifers. Stormwater, once a potential source of flooding, now contributes to an environmental amenity in the city.

PHOTOS 1-4 QUNLI STORMWATER PARK. USING A MINIMUM EARTHWORK STRATEGY, A POND-AND-DYKE SYSTEM CREATES A FILTERING BAND FOR THE WETLAND WHILE IN THE CENTRE, NATURE EVOLVES. PLATFORMS AND VIEWING TOWERS BRING VISITORS.
| PHOTOS 1-4 LE PARC D'EAUX FLUVIALES QUNLI. UTILISATION D'UN TERRASSEMENT MINIMAL : UN SYSTÈME DE DIGUES ET DE BASSINS FORME UNE BANDE FILTRANTE POUR LA ZONE HUMIDE, ALORS QUE LA NATURE SUIT SON COURS AU CENTRE. DES PLATEFORMES ET DES TOURS D'OBSERVATIONS ATTIRENT LES VISITEURS.



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BEFORE



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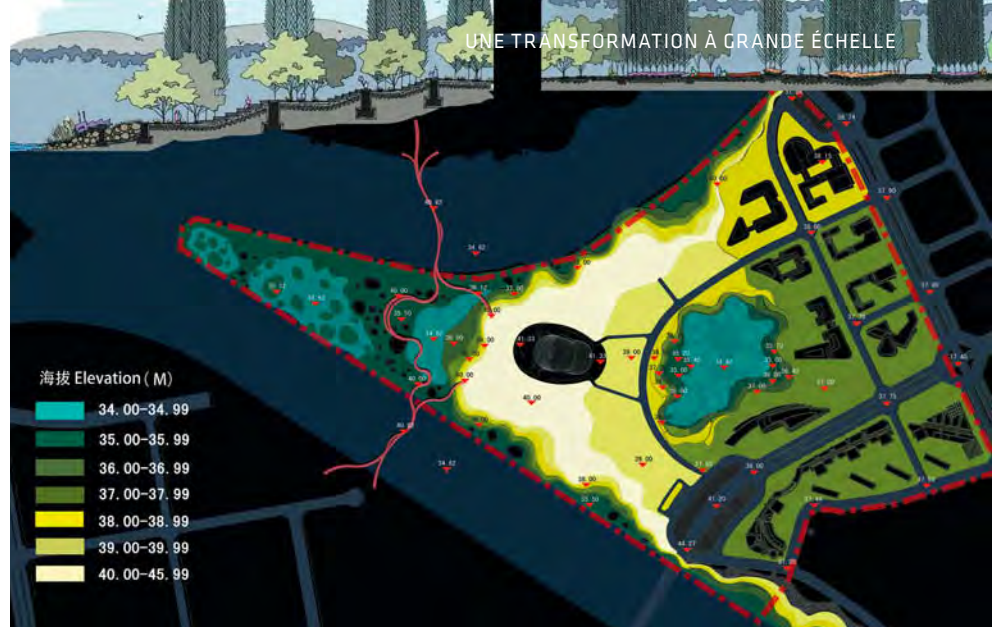
2. YANWEIZHOU PARK IN JINHUA CITY: FLOOD ADAPTIVE LANDSCAPE

As climate change continues unabated and cities continue to grow, cities in monsoon climates are increasingly experiencing flooding. Based on our research, about 70 per cent of the population and 70 per cent of the GDP are concentrated in high flood risk areas. Cities invest heavily in flood control infrastructure, yet higher and higher concrete walls and dams destroy the living system. Valuable storm water is drained away to the ocean, even though two-thirds of Chinese cities suffer severe water shortages.

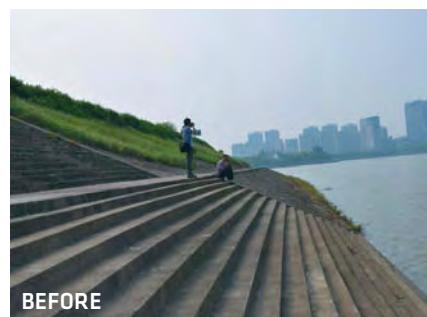
Jinhua City in Zhejiang Province is typical: it suffers from annual flooding. Yanweizhou Park sits at a confluence of the Wuyi and Yiwu Rivers, creating a landmass of 64 hectares in the shape of a “Yanweizhou”, a sparrow’s tail. In the past, high concrete walls had been built, and others were planned to protect the area from the 20-year and 200-year floods. Although these floodwalls would create dry parkland above the water, they would also destroy all potential for a dynamic riparian ecosystem and potential urban green space. As well, the city’s 100-meter-wide rivers isolated the park from the city. Therefore, Turenscape devised a landscape solution, and convinced the city authority to stop the construction of new floodwalls and to demolish others.

The Yanweizhou project “made friends” with flood waters, by using cut-and-fill to create a water-resilient terraced river embankment that is covered with flood-adapted native vegetation. Floodable pedestrian paths and pavilions are integrated with the planting terraces. They are closed to the public during the short period of flooding, but the welcome floods bring fertile silt that enriches the growing conditions for the tall native grasses. The terraced embankment also remediates and filters the storm water from the pavement above.

The project is already a proven success. After the park opened in May 2014, it experienced a 100-year flood, yet some 40,000 visitors used the park. The park’s techniques have now been replicated in ecological restoration projects for other rivers in Jinhua, which is widely celebrated as a model Sponge City project in Chinese media and beyond.



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PHOTOS 1-3 YANWEIZHOU PARK. THE SITE PLAN (PHOTO 1) INDICATES HOW THE PROJECT PLANNERS MADE FRIENDS WITH FLOOD WATERS, AFTER CONCRETE WALLS (PHOTO 2) WERE REMOVED. BRIDGES WERE ELEVATED OVER 200-YEAR FLOOD LEVELS. TERRACES ENRICHED BY SILT FROM FLOODING ENCOURAGE LUSH GROWTH EVEN IN DRY SEASON (PHOTO 3). | **PHOTOS 1-3 LE PARC YANWEIZHOU.** LE PLAN DU SITE (PHOTO 1) MONTRE COMMENT LES CONCEPTEURS ONT AMADOUÉ LES CRUES EN ENLEVANT LES MURS DE BÉTON (PHOTO 2). LES PONTS S'ÉLÈVENT AU-DESSUS DU NIVEAU DE CRUE BICENTENNAIRE; LES TERRASSES, NOURRIES PAR LE LIMON DES CRUES, ENCOURENT LA CROISSANCE DES GRAMINÉES, MÊME EN SAISON SÈCHE (PHOTO 3).



4

3. MINGHU WETLAND PARK IN LIUPANSHUI CITY: SLOWING DOWN WATER

Liupanshui, an industrial city of 0.6 million, had all of the usual serious environmental problems. In the city's Minghu Wetland Park, the challenge for Turenscape was to create an ecological infrastructure that connected all streams, wetlands, and any available land into a storm-water management and ecological purification system which would not only minimize urban flooding but also sustain the water flow of the mother river after the rainy season.

Once again we were inspired by the local farmers. We employed the simple cut-and-fill tactic to create wetland terraces and retention ponds, basing their position and their form and depth on geographic information and a water flow analysis. These terraced habitats regulated the flow of water and native vegetation (planted but mostly sowed) sped the removal of nutrients, since microorganisms and plant species use excess nutrients as resources for rapid growth. On the riverbank, too, native plants revitalized the riparian ecology, which maximized the river's self-purification capacity.

Minghu is also very much a park for people. Pedestrian paths and bicycle routes are overlaid on the green spaces along the waterways and form a circuit around and between the wetland terraces. Resting platforms with abundant seats, pavilions and a viewing tower are integrated into the designed natural system for universal access. This fosters learning, recreational and aesthetic landscape experiences.

PHOTOS 1-3 MINGHU WETLAND PARK. A BLEAK LANDSCAPE (**PHOTO 2**) BECOMES A PARK FOR PEOPLE, AND A STORMWATER SYSTEM WHICH MINIMIZES URBAN FLOODING AND SUSTAINS THE RIVER IN DRY SEASON. **3** ON STEEP SLOPES TERRACED WETLANDS AGAIN REFLECT PEASANT INSPIRATION. | **PHOTOS 1-3** LE PARC DE LA ZONE HUMIDE MINGHU. UN PAYSAGE MORNE (**PHOTO 2**) SE TRANSFORME EN PARC POPULAIRE; UN SYSTÈME D'EAUX PLUVIALES ATTÈNUE LES INONDATIONS ET ALIMENTE LA RIVIÈRE EN SAISON SÈCHE. **3** SUR LES PENTES, LES MILIEUX HUMIDES EN TERRASSE S'INSPIRENT DE LA SAGESSE PAYSANNE.



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4. LUMING PARK IN QUZHOU CITY: A QUILTED PATCHWORK OF TERRAIN AND WATER

Quzhou City in China's Zhejiang Province is known to the world because of its strategic location on the east coast of China. During World War II, the US Air Force used the city's small airport as a base for the Doolittle Raid (the Tokyo Raid), on 18 April, 1942.

Today it is a city of 2.5 million. Luming Park in its West New District is a 32-hectare site surrounded by intensive urban development, and bounded by a river to the west, and an urban thoroughfare to the east. The landscape is a remnant patchwork of rolling hills covered with a mosaic of exposed red sandstone, areas of bushes and grasses, small swathes of abandoned farm fields and a riparian flood plain.

In China, the conventional approach in developing a large new urban district is to level the site to facilitate the installation of infrastructure. Turenscape argued that Luming Park offered a unique opportunity. Why not create a large urban park that is not only a recreational green space, but also provides holistic ecosystems benefits, while addressing big picture issues such as climate change, food security and water resilience? Luming had the potential to explore a new landscape aesthetic that combined productivity with low maintenance. Agricultural urbanism, minimum intervention, performative landscape – all could be integrated into a landscape transformation strategy that “befriended the flood”.

The innovation, ironically, was again inspired by techniques used by peasants for millennia. Concrete embankments were removed so that the river and wetlands were free to fluctuate naturally, pre-existing drainage systems were preserved, and additional bio-swales were added to fields and sloped areas to capture and filter stormwater that would be useful for irrigation when needed. While the existing habitats were preserved, Turenscape introduced productive crops to cover the abandoned fields. The crops rotate annually: canola flowers in spring, sunflowers in summer and fall, and buckwheat in early winter. Meadows planted with a mixture of flower species also rotate with other

productive crops, such as patches of low maintenance perennial chrysanthemum flowers which can be harvested for Chinese herbal medicine.

Boardwalks, bridges, platforms, pavilions and a viewing tower form a circulation network which invites visitors to explore the mosaic landscape. This network, while detached from the canvas of the landscape mosaic below it, effectively transforms the productive – but messy – parkland, by visually framing it into a pleasing array of interactive experiences. With its diverse pallet, the park has become a dynamic urban oasis, marked by unusual celebrations such as the spontaneous gatherings spawned by social media for locals who follow the seasonal blooming of flowers. These events encourage residents to value the change of seasons, which are often obscured by the hustle of urban life. Some eighty per cent of China's urban residents were farmers two or three decades ago. This connection to nature can refresh the memories of a once rural population, and rekindle our respect for age-old wisdom.

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PHOTOS 1-3 IN LUMING PARK, ABANDONED FIELDS ARE TRANSFORMED INTO RICH FARMLAND; DAWN REDWOOD TREES LINE ELEVATED PATHS, OFFERING PEDESTRAINS SHADE WHILE THE CROPS ARE IN SUN. | **PHOTOS 1-3** LE PARC LUMING DE QUZHOU. DES CHAMPS ABANDONNÉS TRANSFORMÉS EN RICHES TERRES AGRICOLES. DES MÉTASÉQUOIAS BORDENT LES SENTIERS POUR RAFRAÎCHIR LES PIÉTONS, MAIS LES CULTURES PROFITENT DU SOLEIL.



3

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BRENT RAYMOND

A DIFFERENT KIND OF PARK

THE SAME REMARKABLE PROMISE

>FR_LP+ UN TOUT AUTRE
GENRE DE PARC

1 AERIAL VIEW OF THE LOWER DON RIVER VALLEY
FROM DON VALLEY BRICK WORKS TO LAKE ONTARIO
| 1 UNE VUE AÉRIENNE DU COURS INFÉRIEUR DE LA
VALLÉE DE LA RIVIÈRE DON, DE LA BRIQUETERIE
JUSQU'AU LAC ONTARIO
PHOTO 1 VITO RICCIO

EN_
THE DON RIVER Valley has long been one of Toronto's most misunderstood and under-appreciated open spaces. Time has not always been on the valley's side. Yet in the last decades, its story has been closely tied to the evolution of our relationship with nature.

In present-day Toronto, we are now at the confluence of an ever-evolving appreciation of landscape and a far more sophisticated understanding of the importance of ecology in the urban environment. For the Don River Valley, this may be the best of times.

A SPECIAL PLACE REDISCOVERED

In many ways, the Don River Valley echoes the history of Toronto. Although its marshy character, steep ravine slopes and frequent flooding have resisted intensive development, pioneers sought to harness the power of the river to operate their mills. That legacy is still visible in the restored Brick Works and Todmorden Mills sites, which were once closely connected.

In those early days, the valley was also a place of escape for those who sought the riverbanks for recreation and creative inspiration. However, given the Don River Valley's physical characteristics, it was





...For our own personal inspiration, we looked back...to Fredrick Law Olmsted [and Boston's Emerald Necklace]...the Don River Valley holds the same remarkable promise.

considered hazard land, a place for putting things you didn't necessarily want to see: formal and informal dump sites, railroads, highways and utility corridors. The natural watercourse of the river was substantially altered over many decades and not surprisingly, these interventions contributed to a highly compromised hydrology.

Today, the valley is a unique social mixing space bordering some of the city's most well-to-do and less fortunate neighbourhoods. Over the coming decades, new communities will bring an estimated 80,000 new residents. And already, the Don Valley has become Downtown Toronto's green backyard, with its readily available, go-to natural experiences. Evergreen Brick Works is one of the City's most celebrated destinations, and both the Pan Am Games Athletes' Village and Corktown Commons in the West Don Lands have been great successes.

APPARENT CONTRADICTIONS

In 2012, the City of Toronto and Toronto and Region Conservation Authority selected a multi-disciplinary team led by my firm, DTAH, to prepare a master plan to improve the Lower Don Trail, a six-kilometre long corridor extending from Pottery Road at the north to



2 DON RIVER VALLEY MASTER PLAN
DEMONSTRATION | 2 LA DÉMONSTRATION DU PLAN
DIRECTEUR DE LA VALLÉE DE LA RIVIÈRE DON.
PHOTO 2 DTAH

Interest in the Don River Valley has moved to an entirely new level of discourse...

Parliament Street at the south. We were to upgrade the decades-old facility and develop strategies to improve access to the trail, introduce public art, and improve the environmental quality of the valley.

Over a relatively short six-month period, we sought to reconcile the apparent contradiction: how can more people enjoy the benefits of the Don River Valley, while we simultaneously better protect and enhance its natural environment? It was our understanding of large scale systems that informed our recommendations. We expanded our thinking to explore how the Don River Valley functions, not as a contained site but as the interface between a fragile natural landscape, and its dense urban setting.

WORKING IN HARMONY

The Master Plan takes a clear landscape urbanism approach: the Don River Valley is a continuous, interconnected system. The recommendations move beyond the tops of the river banks to embrace the surrounding neighbourhoods, considering the entirety of the valley through four different lenses: Landscape Connectivity, Precincts and Nodes, Parallel Routes, and Links and Loops. Each theme is system-based, applying patterns to organize the space.

As a roadmap forward, the Master Plan lays out a logical and interconnected series of future projects, all painted in broad strokes rather than detailed designs. The Master Plan builds on a body of previous work beginning as early as the 1980s and involving many dedicated people, including the esteemed Canadian landscape architect, Michael Hough. The detailed implementation of each project builds on those that came before. In 2013 and 2015, the revitalization work done to date was honoured with a CSLA Award and City of Toronto Urban Design Award respectively. And increasingly, the Master Plan's framework and strategies have become models for other ravine systems, as the City of Toronto advances its comprehensive Ravine Strategy.

In 2014, Toronto selected DTAH to deliver the first phase of recommended landscape improvements; now several are nearing completion. Already, the Bayview Avenue multi-use path and Pottery Road pedestrian and cycling bridge have received praise for expanding Toronto's multi-modal network. Ongoing components include trail improvements, habitat restoration, access stairs and ramps from bridges that cross the valley, an improved rail line underpass and public art interventions.

A BOLD NEW CHAPTER

The Don River Valley presents an opportunity that many Torontonians have compared to the High Line in New York City, not for its physical characteristics but because it stimulates the public's imagination, encouraging us to believe that a different kind of park is possible. For our own personal inspiration we looked much further back than the High Line, to the works of Fredrick Law Olmsted, most famous for NYC's Central Park and in Canada, for Mount Royal. Almost 140 years ago, Olmsted's office was also responsible for the Emerald Necklace in Boston, an expansive and incredibly varied park system connected by a network of trails throughout and



3

3 CONCEPTUAL FRAMEWORK: LINKS AND LOOPS TO PROVIDE CHOICE TO USERS **4** REALIGNED UNDERPASS BENEATH THE BELLEVILLE RAIL CORRIDOR TO IMPROVE SAFETY AND ACCESS | **3** UN CADRE CONCEPTUEL : DIFFÉRENTS TYPES DE PASSAGES POUR OFFRIR DES OPTIONS AUX USAGERS **4** LE PASSAGE FERROVIAIRE INFÉRIEUR SOUS LE COULOIR DE BELLEVILLE A ÉTÉ RÉALIGNÉ POUR AMÉLIORER LA SÉCURITÉ ET EN FACILITER L'ACCÈS.

PHOTOS 3, 4 DTAH



4

into the surrounding neighbourhoods. Developed in the late 1800s, the original plans for the Emerald Necklace encouraged the people of Boston to appreciate their natural landscape in a markedly different way. Today, this collection of parks makes up almost half of Boston's total public open space, contributing a great deal to the image of that city. The Don River Valley, along with the total ravine system in Toronto, holds the same remarkable promise.

REMARKABLE PROMISE

Building upon the success of the Master Plan, interest in the Don River Valley has moved to an entirely different level of discourse. In 2015, the non-profit organization Evergreen (whose headquarters are in the Brick Works site) hosted an invited design charrette (See LP, summer, 2016). Working together, City and agency staff, students and leading professionals from around Canada and the United States explored the creation of a new type of open space. The starting point for the charrette was the Master Plan, but over several days, participants pushed well beyond, to think of the Don River Valley as a place unlike any other in Canada. This was

the charrette's greatest outcome: we began to think of the myriad spaces and components collectively as a park, such a simple move, to use a single identifiable descriptor – yet such a potent and powerful one. For the first time, the Don River Valley became a place that most anyone could relate to.

The next stage in the evolution of the valley promises to become its most successful yet. In October 2016, Toronto Mayor John Tory formally announced the Don River Valley Park project, which started as a multi-year public and private fundraising campaign which had already launched in 2015. This new “super park” will become an extraordinary 480-acre (195 ha) green space in the middle of the city, from Evergreen Brick Works south to the mouth of Lake Ontario.

The recommendations move beyond the tops of the river banks to embrace the surrounding neighbourhoods...

COMING TOGETHER | NEXT STEPS

This new initiative is heavily rooted in the themes and strategies of the Master Plan but aspires to elevate the position and status of the Don River Valley: it can become so much more. Indeed, the alignment of today's environmental ethos, the expanding influence of landscape on our culture, and heightened public imagination could not come together at a more wonderful time for the Don River Valley.

brent@dtah.com



5



5 REALIGNED UNDERPASS BENEATH THE BELLVILLE RAIL CORRIDOR TO IMPROVE SAFETY AND ACCESS **6** NEW STAIRS AND RAMP FROM THREE BRIDGES THAT CROSS THE LOWER DON RIVER WILL PROVIDE GREATER ACCESS TO THE TRAIL | **5** DE NOUVEAUX ESCALIERS ET DE NOUVELLES RAMPES PERMETTENT D'ACCÉDER AUX TROIS PONTS QUI TRAVERSENT LA RIVIÈRE DON ET FACILITENT AINSI L'ACCÈS AU SENTIER.

6 PHOTOS 5, 6 DTAH



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LES ACTEURS DU PAYSAGE RURAL

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> EN_LP+ ACTORS ON THE RURAL LANDSCAPE

Les paysages ruraux font l'objet d'un vaste corpus de recherche à l'Université de Montréal, menant non seulement à la parution d'un livre, mais aussi à un travail fascinant sur les paysages agricoles de la région des Maskoutains. Dans cette section, trois éducateurs expliquent leurs recherches :

GÉRALD DOMON est directeur scientifique associé à la Chaire en paysage et environnement et à la Chaire UNESCO en paysage et environnement de l'Université de Montréal.

JULIE RUIZ a agi à titre de chercheuse au sein de la CPEUM et a lancé avec Gérald Domon, Maryse Séguin et François Lestage le projet pilote « Paysages maskoutains : révéler, mettre en valeur et requalifier. »

LOUIS-PHILIPPE ROUSSELLE-BROSSEAU, agissant à titre de chargé de formation pratique et d'agent de recherche, a collaboré avec Gérald Domon et Julie Ruiz au projet de recherche sur les paysages maskoutains.

LOUIS-PHILIPPE ROUSSELLE-BROSSEAU

PAYSAGES RURAUX : UNE VISION COLLECTIVE PROJET CAPITAL

> EN_LP+ RURAL LANDSCAPES : COLLECTIVE FORESIGHT

FR_ LE TERRITOIRE ÉVOLUE RAPIDEMENT et se recompose picturalement et socialement tout aussi rapidement. Dans ce contexte effervescent, l'action intégrée sur le grand paysage devient capitale. Par grand paysage, il n'est pas question d'un simple objet qui s'offre à la vue, mais bien d'un cadre englobant ses acteurs, leurs actions, les perceptions qui influencent leurs actions et les pressions externes (légales, économiques) qui le façonnent. Pour cela, l'action sur le grand paysage nécessite de le poser comme la résultante d'un dynamisme territorial, et cette action multilatérale se matérialise par le projet.

Si connaître un paysage est une chose, l'élever au rang de bien commun et l'aménager selon une vision collectivement partagée en est une autre. S'il est possible de formuler une critique des démarches paysagères régionales actuelles, force est de constater que bien des diagnostics et chartes sont produits chaque année, mais ne mènent pas forcément à l'action territoriale, à l'acte modificateur du

paysage que l'on identifie comme projet. Trop souvent, on associe encore l'action sur les grands paysages à la coercition, à la réglementation.

LA PROSPECTIVE : PASSER DE LA CONNAISSANCE À L'ACTION

Or, pour qu'un véritable projet prenne forme et vie, il est impératif de mobiliser les ressources territoriales, les potentiels porteurs locaux du projet à long terme. Ces ressources sont multiples : décideurs, aménageurs, citoyens impliqués, agriculteurs, etc. C'est donc à l'architecte paysagiste, lorsqu'il est initiateur ou réalisateur d'une démarche, de faire le pont entre le projet et les acteurs, de faciliter la prise de possession du projet par la collectivité. Parmi tous les outils qui existent, la *prospective paysagère* semble l'un des plus porteurs ; il s'agit d'analyser les tendances de paysages valorisés localement afin de les mettre en image dans le futur, à la manière de scénarios. Les scénarios produits sont mis en débat en comité, puis un scénario faisant consensus émerge.

Par sa nature visuelle la facilité d'approche avec laquelle elle est abordée par le non-initié, la prospective



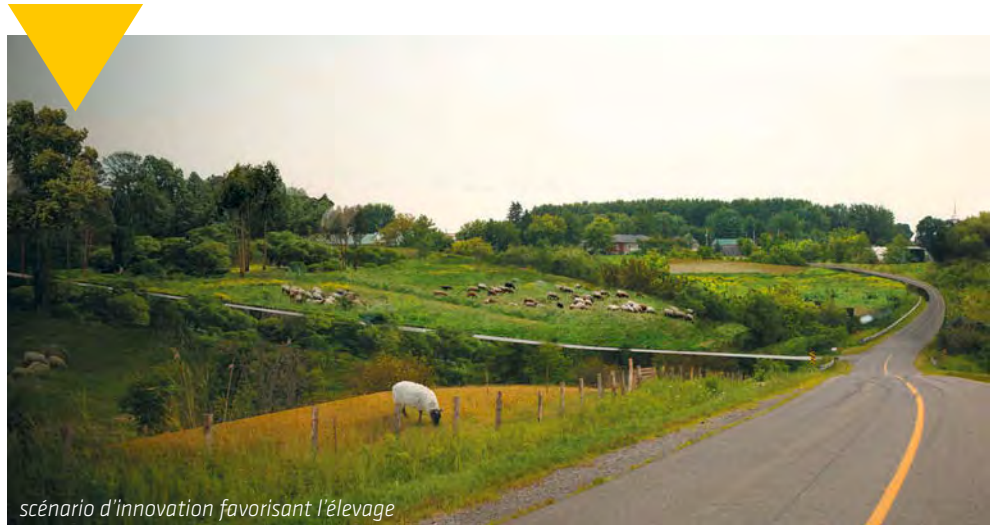
paysagère facilite le travail de l'architecte paysagiste et peut s'appliquer à la fois aux territoires du quotidien et à ceux qui sont universellement reconnus. Elle permet de mettre les futurs possibles en débat, de mettre en dialogue les acteurs et les concepteurs, et d'aboutir à la mise en œuvre d'une vision collectivement partagée par une communauté renforcée par la possession d'une vision claire qui oriente les gestes d'aménagement. Ce sont effectivement les acteurs du paysage qui prennent position sur les mesures à adopter, tant privativement, collectivement que légalement afin d'arriver, à long terme, au paysage souhaité.

La prospective est donc un travail de longue haleine, car elle intègre le caractère mouvant du paysage et la nécessité, à différents points dans le temps, d'actualiser le projet afin qu'il demeure en adéquation avec les valeurs, usages et perceptions de son époque. Il s'agit donc d'un exercice à recommencer sporadiquement afin de garder vivant le grand paysage régional.

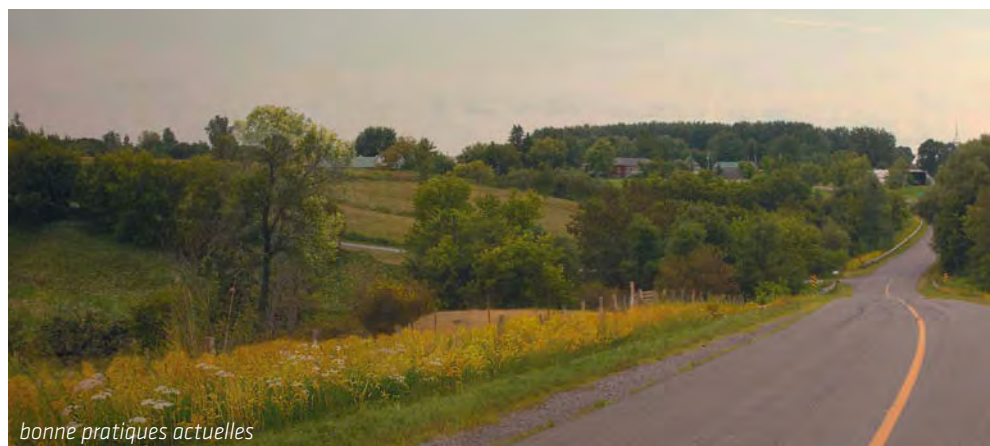
En somme, pour qu'il y ait projet de paysage, l'architecte paysagiste doit renforcer la communauté d'intéressés, lui donner un pouvoir d'action qui favorise l'appropriation locale à la fois de la grande idée et des moyens de la mettre en œuvre à long terme. Il devient un médiateur qui dirige la conception et l'articulation collective de la vision partagée. La prospective devient un outil de choix puisqu'elle permet de faire émerger du débat public un projet collectif qui ne fige pas le territoire, mais met ses dynamiques en exergue.

À grande échelle et dans une époque de changements rapides, l'architecte paysagiste médiateur prend toute sa valeur.

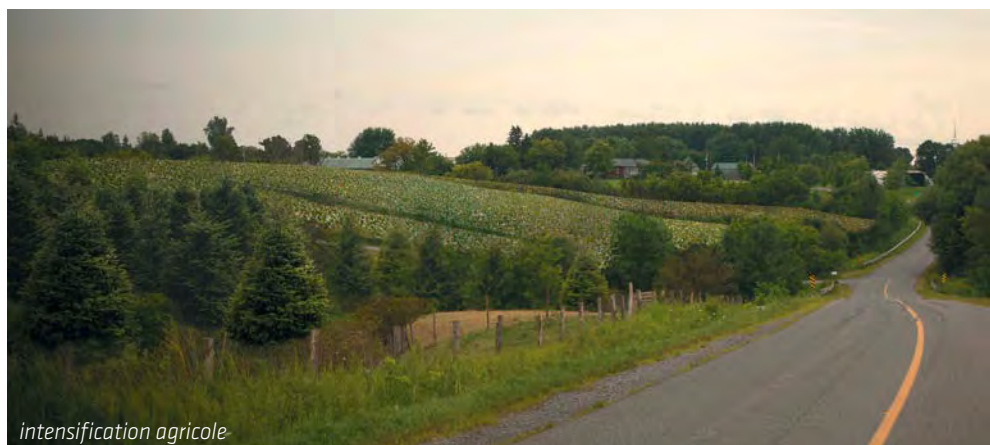
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 Professionnel : **louis@lemeandre.ca**



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3 SCÉNARIO PAYSAGER : EXERCICE DE PROSPECTIVE PAYSAGÈRE DANS LA MRC DES MASKOUTAINS
1 PAYSAGE ACTUEL. 2 SCÉNARIO À LONG TERME : INNOVATION EN FAVORISANT LE DÉVELOPPEMENT DES ACTIVITÉS D'ÉLEVAGE SUR LES VALLONS. 3 SCÉNARIO À MOYEN TERME : APPLICATION DES BONNES PRATIQUES. DANS CE CAS, IL S'AGIT DE LA GESTION DIFFÉRENCIÉE DES ABORDS ROUTIERS PAR LE MINISTÈRE DES TRANSPORTS. DES FLEURS SAUVAGES SONT VISIBLES TOUTE L'ANNÉE 4 SCÉNARIO DE TENDANCE : LES VALLONS SONT MARQUÉS PAR UNE INTENSIFICATION AGRICOLE LE LONG DU RANG (MAÏS, SOYA). | 3 LANDSCAPE SCENARIOS: LANDSCAPE FORECAST EXERCISE IN THE MASKOUTAINS REGIONAL MUNICIPALITY (MRC) 1 CURRENT LANDSCAPE. 2 LONG-TERM SCENARIO: INNOVATION THROUGH THE DEVELOPMENT OF RANCHING IN THE SMALL VALLEYS. 3 MEDIUM-TERM SCENARIO: DIFFERENTIATED MANAGEMENT OF ROADSIDES BY THE PROVINCIAL TRANSPORTATION DEPARTMENT. WILDFLOWERS ARE VISIBLE YEAR ROUND. 4 TREND SCENARIO: THE SMALL VALLEYS ARE CHARACTERIZED BY AGRICULTURAL INTENSIFICATION (CORN, SOY).

IMAGES LOUIS-PHILIPPE ROUSSELLE-BROSSEAU

JULIE RUIZ ET GÉRALD DOMON

CONCERTATION AUTOUR DES GRANDS PAYSAGES

>EN LP+ RURAL LANDSCAPES: FROM SHARED KNOWLEDGE TO SHARED VISION

DEPUIS LE DÉBUT des années 2000, le nombre de régions et de MRC du Québec qui travaillent explicitement à la mise en valeur et à la gestion de leur paysage est en augmentation constante. Ces initiatives régionales font entrer le paysage dans une démarche politique où la concertation des acteurs du milieu devient un préalable incontournable à l'action.

Or la concertation appelle le développement d'une connaissance et d'une compréhension partagées des paysages qui permettront de construire un projet collectif. C'est dans la perspective d'accompagner ces démarches autour des grands paysages que l'ouvrage *Paysages ruraux, méthodes d'état des lieux et de diagnostic* a été conçu.

DES EXPÉRIENCES ÉTRANGÈRES

En vertu de l'article 6 de la Convention européenne du paysage, chaque pays doit effectivement identifier les paysages de son territoire, analyser leurs caractéristiques, leurs dynamiques et les pressions qui les modifient, de même que suivre leurs transformations. Si l'Angleterre ou la France s'étaient engagées très tôt dans ce type de démarche, on en retrouve aujourd'hui en Catalogne, en Wallonie, mais aussi en Slovaquie, en Lettonie, etc.

Du côté des États-Unis et de l'Australie, ce sont davantage les procédures d'évaluation des qualités visuelles des paysages qui ont été plus systématiquement institutionnalisées ; une situation semblable à celle du Québec.

Ces différentes démarches ont permis l'élaboration de nombreuses méthodes qui permettent de caractériser les paysages pour ensuite identifier les enjeux qui les traversent. L'analyse de ce corpus a permis de dégager les caractéristiques du projet de grands paysages ainsi que de recenser différentes méthodes d'analyse complémentaires. L'expérimentation de ces démarches sur les paysages de la MRC des Maskoutains a aussi conduit à proposer des formes d'adaptation de ces méthodes au contexte québécois.

TOUS LES TYPES DE PAYSAGES

Ainsi, le projet de grands paysages est avant tout une démarche mise en oeuvre par une diversité d'acteurs pour enclencher un processus de transformation spatiale portée par une vision d'avenir partagée. Cette démarche mise sur l'évaluation, par les acteurs du milieu, des pressions qui pèsent sur les paysages. Elle se distingue donc de la conception d'une intervention physico-spatiale concrète sur le paysage réalisée par des experts à la suite d'une commande, le plus souvent publique. Dans de telles démarches, certaines dimensions



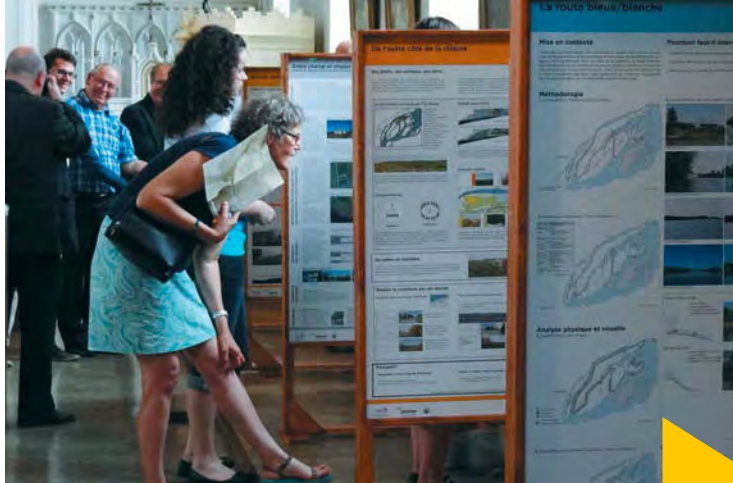
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sont tout d'abord analysées. Aussi, la caractérisation de l'organisation spatiale des composantes matérielles des paysages en constitue-t-elle presque toujours la base (ex. : organisation des établissements humains, du parcellaire agricole, du bâti, forme du réseau hydrographique, etc.).

Par ailleurs, reconnaissant que l'action sur les grands paysages nécessite d'impliquer une diversité d'acteurs aux regards complémentaires, ces démarches cherchent de plus en plus activement à mettre à jour les représentations que les élus, les intervenants, les agriculteurs, les forestiers, etc. se font des paysages. Sur ce plan, force est de constater que les outils développés à travers le monde rivalisent d'originalité : analyse des photographies du site Panoramio (site Web de partage de photographies géopositionnées), création d'un outil de partage en ligne des paysages valorisés par les populations, séances de cartographie participative pour partager les



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paysages valorisés ou dévalorisés d'un territoire, etc. Enfin, si toutes les connaissances précédentes concernent les paysages d'aujourd'hui, ce sont aussi les dynamiques passées que ces démarches analysent pour révéler les pressions qui pèsent sur eux. L'analyse des transformations au cours des 10 ou 20 dernières années s'avère alors un exercice incontournable. La rencontre de divers spécialistes et professionnels qui travaillent sur le territoire (aménagistes, agents culturels, etc.) avec d'autres qui lui sont extérieurs, comme des architectes paysagistes, est alors un moyen privilégié pour sensibiliser les intervenants du milieu aux enjeux actuels.

Une fois l'ensemble de cette connaissance colligé, les acteurs du milieu devront avoir le temps de se l'approprier. Ils pourront enfin identifier les enjeux de paysages, c'est-à-dire décider sur quoi et pourquoi agir. Là encore, différents outils de travail ont été développés et pourront être employés, de l'analyse forces-faiblesses-opportunités-menaces à l'identification des enjeux à partir de blocs-diagrammes.

DES EXPERTISES EN PAYSAGE QUI SE DIVERSIFIENT

Si pour de nombreux pays européens, le cadre légal oblige la prise en compte des enjeux de paysage dans les différents documents d'urbanisme, tel n'est pas le cas du cadre légal québécois. Dans ce contexte, il importe que ces démarches de grands paysages reposent sur un travail de concertation et sur une collaboration active des intervenants du milieu, qu'ils soient spécialistes en paysage, en aménagement, en développement culturel, etc. Si ces démarches semblent s'éloigner des pratiques auxquelles les architectes paysagistes sont davantage familiers, soit les interventions physico-spatiales à échelle plus fine, elles sont aussi porteuses d'opportunités nouvelles pour la profession. À travers le projet de grands paysages, c'est un nouveau rôle, celui d'expert-médiateur en paysage, qui se dessine à côté de l'expert-concepteur. Former des experts aptes à occuper pleinement l'un et l'autre rôle puis à s'alimenter et s'enrichir mutuellement pourrait bien être un des défis immédiats pour la profession. La présence de ces deux spécialités, foncièrement complémentaires, est aujourd'hui incontournable pour assurer la prise en compte des dimensions qualitatives des territoires à toutes les échelles de l'aménagement des territoires.

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EXTRAIT DE LA REVUE PAYSAGES 2016 DE L'AAPQ AVEC
L'AIMABLE PERMISSION DES AUTEURS ET DE L'ASSOCIATION

GÉRALD DOMON

LE GRAND PAYSAGE : LES DÉFIS DE LA FORMATION

> EN_LP+ LARGE LANDSCAPES: TRAINING EXPERTS IN AN EMERGING FIELD

SI L'INTÉRÊT NOUVEAU porté au grand paysage et la multiplication des démarches de protection et de mise en valeur par les collectivités sont porteurs de nouvelles opportunités, ils posent aussi des défis à la formation en architecture de paysage.

Le premier défi est sans doute de faire comprendre, à des étudiants plutôt familiers avec l'intervention à des échelles plus réduites en milieu urbain, ce qu'est le design régional. Le second est lié au besoin, étant donné la diversité d'acteurs impliqués, d'établir une base de connaissance partagée. Enfin, agir avec une telle diversité d'acteurs exige également des habiletés particulièrement poussées aux plans communicationnel et interactionnel, dimensions souvent négligées dans les formations en architecture de paysage.

Donné en troisième année du baccalauréat et en étroite collaboration avec des collectivités locales, l'atelier Espace régional donne l'occasion aux étudiants de se familiariser avec les enjeux liés aux paysages, avec les différentes méthodes et approches de caractérisation des paysages et avec la formulation de propositions qui font sens auprès des collectivités locales.

Dans le cadre, cette fois, de l'atelier Grand Paysage donné depuis l'hiver 2016 à la maîtrise professionnelle en architecture de paysage, les étudiants sont amenés, toujours en collaboration étroite avec les intervenants locaux, à approfondir leurs compétences, et ce, avec une emphase très nette sur la maîtrise de certains outils informatiques et sur le développement d'habiletés en matière de médiation paysage.

Enfin, à compter de septembre 2017, la nouvelle maîtrise de recherche Ville Territoire Paysage fournira l'occasion de développer de nouvelles approches et un nouveau savoir-faire. Fédérant l'ensemble des ressources de l'École cette nouvelle maîtrise fournira l'opportunité d'aller chercher des compétences complémentaires en urbanisme.

1 MUNICIPALITÉ RÉGIONALE DES MASKOUTAINS : ORGANISATION DES ÉLÉMENTS HUMAINS, SUBDIVISION DES TERRES AGRICOLES, FORÊTS, TOPOGRAPHIE ET SYSTÈME HYDROLOGIQUE 2 PAYSAGES RURAUX 3 EXPOSITION FINALE DES TRAVAUX DES ÉTUDIANTS | 1 MASKOUTAINS REGIONAL MUNICIPALITY: ORGANIZATION OF HUMAN ELEMENTS, AGRICULTURAL LAND SUBDIVISION, FORESTS, TOPOGRAPHY AND THE HYDROLOGICAL SYSTEM 2 RURAL LANDSCAPES 3 EXHIBITION OF GRADUATING STUDENT'S WORK

IMAGES 1 DIAGRAMME PAR L.-P. ROUSSELLE-BROSSEAU 2 PRESSES DE L'UNIVERSITÉ DE MONTRÉAL, 2015. PHOTO 3 J. RUIZ

WORKING LARGE



1. James Thomas

2. Katie Black

A PANEL DISCUSSION INSPIRED BY CARL STEINITZ...

EN_
THE SUMMIT ON Landscape Architecture and the Future, held at the University of Pennsylvania in June, 2016, gathered together over 700 landscape architects from the United States and other parts of the world. The Landscape Architecture Foundation (LAF) convened the summit, exhorting the delegates to think big, challenge the status quo, and join together in meeting the urgent challenges of climate change and other global environmental issues.

Carl Steinitz (PhD, Professor Emeritus of Landscape Architecture and Planning, Harvard Graduate School of Design), a preeminent leader in large landscape design, delivered an address which in 10 brief minutes, aimed to reset the profession's perspective for the future. Landscape architects should, he argued, focus their work at the size and scale of regions. That, he said, is **"where real issues occur in the world"**. (To watch the video, see the box below.)

WHERE SOCIETY NEEDS US THE MOST

This broad scale work, Steinitz continued, is where "society needs us the most". Yet he also observed that very few landscape architects are in fact working at larger scales, a fact confirmed by the recent task analysis survey completed by Adrienne W. Cadle for CLARB (2016) (bit.ly/CLARBanalysis). If landscape architects are challenging one another to think big, why are so few landscape architects working at larger scales?

To consider that question and others, I spoke with six current and former colleagues at HTFC Planning & Design, where I have practiced for over 35 years. While our practice is very diverse, with projects spanning the full spectrum of sizes and scales, regional and community scale projects have been consistent features since Garry Hilderaman founded the firm in the late 1960s.

BY DEFINITION COLLABORATIVE

"There's no one profession who can do this [large scale work]," said Carl Steinitz. "This is by definition collaborative."

Large-scale work requires the knowledge and perspectives of many disciplines. While that is fundamental, it is not news: collaboration has been a strong and repeated theme for fully a half century. In fact, the Pennsylvania summit was inspired by the 1966 Declaration of Concern written by Ian McHarg and his colleagues. "The solution of the environmental crisis demands the skills of many professions," they wrote.

Like other firms working at a large scale, HTFC embraces collaboration, but over time, we have become more diverse within our walls. In recent years our planning group has included individuals with backgrounds in natural resources management, geography, GIS, biology, anthropology, commerce, literature,

BE INSPIRED!

To view Carl Steinitz delivering his 10-minute address to the Summit on Landscape Architecture and the Future:

> vimeo.com/173647936



ALL PHOTOS HTFC PLANNING AND DESIGN



3. Elly Bonny

4. Tim Hogan

5. Rob Nedotiafko

6. Chelsea Synnychych

7. Trent Workman

psychology and planning as well as landscape architecture.

So what do landscape architects bring to such collaborations? At HTFC, our newer team members are convinced that LAs are particularly suited to collaborative work.

Trent Workman: “LAs bring a generalist approach. We know a bit about everything but our strength is knowing we’re not experts in any one particular field. We listen and facilitate the sharing of knowledge (and try to understand).”

Chelsea Synnychych: “We know a bit about a whole lot, whereas other professions may specialize and know a whole lot about a bit. I believe this allows us to approach projects with consideration for the larger picture.”

Rob Nedotiafko, former HTFC Principal, now Director of Manitoba Parks and Protected Spaces, believes LAs are valuable to multi-disciplinary teams because they have a holistic perspective that encompasses the complex social, cultural and bio-physical elements of landscapes.

NOT THE ONLY ONES WITH WISDOM

“I see no reason why landscape architects should see themselves as the stewards of the landscape, or the protectors of the landscape, or the designers of the landscape. We are not the only ones with wisdom,” said Carl Steinitz.

When teams come together to work at very large scales, we must learn to be humble and listen well. It is more important to understand the extent of our collective ignorance, than to be

over-confident about what we know. This awareness of the limits of our knowledge, our sincere interest in other cultures and worldviews, and our capacity to actively listen are particularly valuable in building teams that recognize the critical value of local expertise, including that of Indigenous people.

Elly Bonny: “While professionals in engineering, science and environmental assessment are coming to recognize the importance of consultation and Indigenous knowledge, LA grads are already there. Our young staff members have flown to northern communities and arrived with the right mindsets to connect with and listen to local people. They have demonstrated a valuable willingness to understand local cultural landscapes.”

Rob Nedotiafko believes it is not the specific knowledge of LAs that is key; rather it is our broad understanding of landscape, and our creative, goal-oriented or solution-focused perspective that sets LAs apart.

INTENTIONAL CHANGE TAKES PATIENCE

“We have to be in a position to propose intentional change,” said Carl Steinitz.

It is a special landscape architect who chooses larger scale work. HTFC is always on the lookout for those rare graduates who have a sincere passion and aptitude for regional work. What are those characteristics? For one: you have to be patient. It may take many years for a project to run its course, and many more years before the effects of the

A PANEL DISCUSSION Inspired By Carl Steinitz

HOST

1 James Thomas, FCSLA, MCIP, RPP
Senior Advisor
HTFC1982-present

OUR PANELISTS

2 Katie Black, HTFC 2011–2014
Urban Designer, Urban Strategies
Manitoba: BED (2012)
Pennsylvania: MLArch (2016)

3 Elly Bonny, HTFC 2007–present
Queens: BSc (2003)
Manitoba: MNRM (2007)

4 Tim Hogan, MCIP, RPP
HTFC 1998–present
Manitoba: BA Psych/Soc (1990)
MLArch (2002)

5 Rob Nedotiafko, Director
Manitoba Parks and Protected Spaces
HTFC 1996–2007
Manitoba: BA Geography (1992)
MLArch (1996)

6 Chelsea Synnychych, HTFC 2012–present
Manitoba: BED (2009), MLArch (2013)

7 Trent Workman, HTFC 2013–present
Manitoba: BED (2010), MLArch (2016)

Landscape architects should focus their work at the size and scale of regions. That is “where real issues occur in the world,” and where society needs us the most.

...Comments from Carl Steinitz
excerpted from an address to the Summit on
Landscape Architecture and the Future

“intentional change” are apparent in the landscape, if they are apparent at all.

This requires humility, and parking one’s ego at the door. Large Landscape people need to find fulfillment in the collective, collaborative process and in assisting the clients (typically communities) to realize *their* vision and *their* creation. It means enjoying the process as much as, or more than, the product. The work is unlikely to be satisfying to someone who wants to take ownership of a “design intervention” that will make the cover of LP.

Chelsea Synnychych: “I enjoy it when people walk through a site and are not aware it was designed. I like the design to be subtle and flexible...allowing people to make their own discoveries in the landscape.”

Tim Hogan: “The human component of design is largely about relationships and learning about the client, users and stakeholders and the cultural groups that comprise them; building those relationships and striving for an understanding of the cultural group helps to solve problems at different scales over successive and interrelated projects.”

If the close and enduring relationships forged with clients is a definite plus, the long project time frames can be frustrating. After three fruitful years with HTFC, Katie Black turned to Urban Design.

Katie Black: “I really like large-scale work, especially the relationships you build. But large-scale work is also a lot more nebulous and open-ended. Sometimes it’s very nice to just see a finite project, know exactly what the process will be, complete it and be able to say, “Done!””

Trent Workman: “The only thing I miss about smaller scale projects is that sense of completion. It seems as if our projects never finish.”

THIS FOOLISH IDEA

“We retain this very foolish idea that there’s a difference between planning and design...this is all design. It’s design in the sense of a verb,” said Carl Steinitz.

In Steinitz’ Pennsylvania address, he briefly summarized the history of the profession, highlighting the split between planning and design. Like Steinitz, I and others who have spent decades working across scales, believe that division is a “foolish idea”.

The profession of landscape architecture likes to claim large-scale work as part of its bailiwick, yet the CSLA, the ASLA and their affiliates, have put barriers and disincentives in place. The processes of professional registration and licensing are focused on site-scale design and construction and barely acknowledge larger scale practice.

It is worth noting that neither Tim Hogan nor Rob Nedotiafko, who hold degrees in landscape architecture, are Full Members of MALA. (Hogan is an Associate Member.) Neither of these practice leaders have the recommended days of site-scale experience to qualify for Full Membership. It is also noteworthy that Elly Bonny who, with Tim Hogan, currently leads HTFC’s large landscape work, is not a landscape architect.

While both Hogan and Nedotiafko see themselves as landscape architects, neither foresees a day in the future when they will be Full Members of MALA/CSLA. If MALA is successful in

its campaign to have Manitoba pass a landscape architect *Name Act*, it will be illegal for both these practice leaders to use the title “landscape architect.”

Tim Hogan: “It feels like you are fully not welcome in your own club.”

The emerging practitioners on our panel acknowledge they will need to tackle LARE and other requirements for professional accreditation, but some of the hoops they will be obliged to jump have little relevance to working large.

Katie Black: “The governing chapters of CSLA and ASLA are making it very hard for emerging professionals who practice alternative forms of landscape architecture to become professionally recognized and accredited. While I understand the necessity and value of the LARE for general professional practice, it is a limited measure of what landscape architectural practice can be and how landscape architectural knowledge can be applied in various professional roles. Given the need for landscape architects in roles that are not typical LA practice, the profession should be opening up avenues for those of us who practice large-scale landscape architecture (and urban design) to gain professional recognition.”

Trent Workman believes that meeting accreditation requirements is an important step in his journey as a landscape architect. Yet he recognizes that a significant proportion of the requirements for MALA have marginal significance to the work he wants to do at larger scales. Like the other emerging practitioners on our panel, Trent is interested in the full spectrum of landscape architecture practice, and applauds the traditions of the profession’s founders like Fredrick Law Olmsted.

Again, Steinitz puts it well, advocating that we recapture the vision of LA pioneers. “[We must] see the world the way the founders of the profession of landscape architecture did.”

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GEOFF SMITH

ROOM TO BREATHE...

EDMONTON DOES THINGS DIFFERENTLY

EN_

IT SURPRISES MOST people to learn that Edmonton is Canada's fifth largest city. The city's 2016 census counted some 899,447 people, and the population is still climbing, albeit at a modest growth rate of 2.5 per cent.

Edmontonians today are blessed with expansive green space, but with the city expected to number some 1.2 million by mid-century, Edmonton is revolutionizing its thinking about public landscapes. BREATHE: Edmonton's Green Network Strategy, is taking a transformational approach to open space planning for the future.

Traditional planning has often been compartmentalized into different subject matter buckets – a strategy for parks, one for natural areas, another for drainage. BREATHE marks a major shift: it brings these and other perspectives together in one strategy for public land, in order to achieve higher performing landscapes.

THINKING BIG

In the same way that organisms function within a natural ecosystem, open space functions as part of a larger integrated whole within the urban ecosystem. Guided by O2 Planning + Design, the city is examining the depth and breadth of that larger system. BREATHE has laid out some 15 critical functions provided by green spaces, ranging from promoting biodiversity to building pathways for active transportation. The strategy is to assess the network's capacity to meet the needs of the ecology, and to ensure healthy, connected and multi-dimensional open spaces across old neighbourhoods and new.

In the past, Edmonton park planners focused only on the existing municipal parks, woodlots and natural areas dispersed throughout the city and within the North Saskatchewan River Valley, most owned by the city or jointly managed with school boards. The amount of land was significant: over 6,000 ha of land distributed across more than 1,000 parcels. However, this supply analysis was limited. It did not, for

example, include the grounds of the Alberta Legislature, certainly one of the city's premiere civic gathering and festival sites. Nor did the planners consider a great many other lands accessible to the public, which are important ecologically, or contribute to community wellness and outdoor gathering. With the larger vision of BREATHE, planners identified land resources that could grow the network to over 11,000 ha...almost doubling its potential size. Astonishingly, this is the equivalent of the size of the twenty *arrondissements* of Paris!

Edmonton is continuing to grow in, up and out: growth is distributed among downtown neighbourhoods which are intensifying, mature neighbourhoods which are experiencing infill, and new neighbourhoods which are developing at the city's edges. BREATHE examines what the land base must deliver to citizens across all neighbourhoods, providing high level direction that will lead growth over the coming decades. And the city's needs will multiply, whether this entails ensuring play space for soccer and cricket players,

...open space functions as part of a larger integrated whole within the urban ecosystem...

providing better connectivity across the landscape for people and wildlife, or delivering highly valued ecosystem services, from managing storm water and improving air quality to increasing our resiliency to changes in climate. These uses of open space need not be at cross purposes to each other. BREATHE is bringing the functions together into a green network that shows that Edmonton is ready to do things differently.

For more information and project video, go to bit.ly/Edmonton_breathe.

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CIRCUITScape CONNECTIVITY MODEL INDICATING EASE OF MOVEMENT: BLUE INDICATES BARRIERS; GREEN AREAS ARE MOST LIKELY TO BE USED.





MARK SCHOLLEN

A (R)EVOLUTIONARY PARK

AN URBAN PARK DECADES IN THE MAKING...

ROUGE NATIONAL URBAN PARK – ROUGE MARSH VIEWING NORTH. PHOTO "DRONE PILOT", SHANA HUSBAND, SCHOLLEN & COMPANY INC.

FR_ RÉSUMÉ

UN PARC (R)ÉVOLUTIONNAIRE

Officiellement créé le 15 mai 2015, le parc national urbain de la Rouge est la plus récente addition à la liste de parcs nationaux du Canada. Sa superficie de 7900 ha en fait le plus grand parc urbain au monde. Sa réalisation est le fruit de plusieurs décennies de plaidoyer, de soutien public et d'interventions politiques.

EN_

IMAGINE A MAJOR metropolis that encompasses a park that is twenty-two times the size of New York City's Central Park.

Imagine that this landscape supports over 1,700 species of plants and animals – including species designated as nationally vulnerable, threatened or endangered – and imagine its geology, physiography and landforms, which have evolved over 12,500 years to include Carolinian forests, marshes and wetlands, bluffs, beaches and ravines.

Imagine that this park provides a living record of 10,000 years of human habitation including over 1,000 archaeological sites, and intact artifacts which document the history of the Aboriginal peoples that relied upon this landscape. And finally, imagine that this park is accessible by car, bicycle and public transit to a population of over 6 million – and that this park exists!

THE DECADES-LONG MAKING OF A PARK

Encompassing over 7,900 ha, Rouge National Urban Park is the largest urban natural environment park in the world. The park traverses the boundaries of four municipalities and protects over 17 per cent of the Rouge River watershed. Formally created on 15 May 2015, Rouge Natural Urban Park is the newest National Park in Parks Canada's portfolio.

Although the enactment of the Rouge National Urban Park Act (Bill-C40) occurred relatively recently, the realization of the park resulted from a decades-long process of community advocacy, public support and political intervention. The park evolved in form,



Imagine a major metropolis that encompasses a park that is twenty-two times the size of New York City's Central Park. | Imaginez une métropole englobant un parc 22 fois plus grand que le Central Park de New York.

2,250 ha, extending from Lake Ontario to Toronto's northern boundary, but the 1994 vision extended the concept northward, along the valleys of the Rouge River and its tributaries.

Governance became the responsibility of a new multi-stakeholder entity, the Rouge Park Alliance, which included representatives from the Federal and Provincial governments, the Toronto and Region Conservation Authority, the Regional Municipalities of York and Durham, the City of Toronto, the Towns of Markham, Richmond Hill, Whitchurch-Stouffville and Pickering, the Toronto Zoo and one non-government agency, Save the Rouge Valley System (SRVS). This novel – even revolutionary – governance model brokered cooperation across municipal boundaries, and also encouraged public involvement, engaging the agricultural community, First Nations and environmental advocacy groups.

2001

The Alliance commissioned a team led by Schollen & Company Inc. to develop the Rouge North Management Plan, launching a planning process that spanned five years and involved consultation with over 20,000 stakeholders. Released in 2001, the plan laid out strategies designed to “grow” the park, creating guidelines and criteria that were to be applied during the development approval process to help define the park's boundaries and secure land.

2006

The park's area markedly expanded by some 5000 hectares when Markham approved Official Plan Amendment 140 Rouge North Management Area, which resulted in the formal designation of Rouge Park north of Steeles Avenue into Markham. For over two decades, the park continued to evolve, with the Rouge Park Alliance guiding its stewardship and growth.

2015

With the establishment of Rouge National Urban Park, the Alliance dissolved and management became the responsibility of Parks Canada. Remarkably, throughout almost a half century, the vision of a park that protects the natural and cultural heritage features of this remarkable landscape had remained intact.

In July 2015, the Government of Canada dedicated an additional 21 square kilometers of land to expand the park northward into the Township of Uxbridge, completing the long-desired connection between the Lake Ontario shoreline and the Oak Ridges Moraine. The addition solidified the park's position as the largest urban natural environment park in the world.

marks@schollenandcompany.com

size and governance structure, growing and transforming year after year, while the central vision held firm.

1990

Almost forty years ago, Ontario announced its intent to establish a park within the Rouge River valley that would extend from Lake Ontario northward to the Oak Ridges Moraine. It is noteworthy that this first official step was in fact catalyzed by years of tireless advocacy from community volunteers and interest groups who were witnessing the encroachment of urban development on the Rouge River Valley.

1994

The Rouge Park Management Plan (Hough Stansbury Woodland Ltd), released in 1994, established a formal vision for the park, and designated a suite of Management Areas aimed at balancing environmental protection and public use. It also solidified boundaries. Initially the park had encompassed approximately

LANDSCAPE AS URBANISM

Charles
Waldheim

READ BY DOUGLAS CARLYLE

URBANISTS, ALL

EN_

FOR LANDSCAPE ARCHITECTS who practice principally in cities and their regions, the title of Charles Waldheim's book, *Landscape as Urbanism*, immediately grabs attention. Cities and their transformation are increasingly the focus of design projects led by landscape architects and architects. A rethinking of the city's public realm, in particular, is inspiring some of our best work, as exemplified by the proliferation of public projects in the 2016 CSLA Awards of Excellence.

DENSE AND INSIGHTFUL

For LAs in cities, Waldheim's book is a rewarding read: it is dense, insightful, comprehensive and demanding.

It is dense in its thorough research and understanding of the forces influencing the shape of cities and their regions. It offers an exploration of landscape as the fundamental design medium for the contemporary city – landscape as the determinant of the form in itself. It is the landscape which sets the context for the built environment.

The book is insightful, even compelling, in its discourse which explores how city design arises in response to economic forces, environmental health and social well-being, as well as in the context of the city's cultural heritage and aspirations. These factors are now inherently interwoven into our projects, as exhibited in the book's case studies which illustrate the critical value of conceptual design thinking to the making of contemporary places.

book info

Landscape as Urbanism:
A General Theory
Charles Waldheim
Princeton University Press
February, 2016
Hardcover, 216 pages
ISBN: 9780691167909

Waldheim's writing posits a counterpoint to traditional city design. It challenges conventional thinking, which has traditionally given priority to the building as the project of the city, and instead asserts that public landscapes are the basic building blocks of urban form. This has previously been argued by Rem Koolhaas and more emphatically implemented in the revitalization of Barcelona, starting in the 1980s.

WALDHEIM IS DEMANDING

The book is demanding. This is not a book to be read while distracted by phone calls from your mother or by errands and picking up the kids. The book requires some effort and the generosity of spirit to give it a chance. Even the graphic layout and supportive illustrations are at first irksome, but this does make sense. Waldheim is demanding our undivided attention.

The book's survey of several urban issues is enlightening. It challenges designers to respond to, and mitigate, the impact of global economic and social shifts. The discussion of the impact of logistics on cities and their landscapes is revealing: Waldheim considers the innovation of the ubiquitous sea can, for example, which led to the consequent development of the container ports and inter-modal inland ports, which in turn perpetuated the development of the auto-route and "400" style highways, thereby enabling big box retail.

SO WHAT IS LANDSCAPE URBANISM?

Landscape urbanism emerges as a way or theory "of thinking about the urban (that is the city) through landscape." It operates at the intersection of ecological wellbeing and design culture. Waldheim reminds the reader that this not the exclusive territory of the landscape architect, but he does argue that it is the landscape architect as a professional who, among the planning and design disciplines, is the "urbanist of our age". It is the landscape architect who can orchestrate complex multidisciplinary teams of designers, engineers and specialists – a task which is at once a daunting challenge and a responsibility. There may be some truth to his thinking, but we also need to acknowledge our collective challenge. We must all think more deeply about how to address complex issues from a landscape perspective.

Interestingly, Waldheim reinforces the inadequacy of our profession's title, arguing that "landscape architect" is "miserable nomenclature". He suggests "landscapist", directly translating the French "paysagiste".

Why does this book matter? Does it add to the discourse on design in cities? Will it help make our communities better places? It is a gift to those of us willing to give it attention; it reinforces the need to walk the talk, and to look well beyond fitting budgets, meeting owner requirements and even the user experience outcome.

Landscape as Urbanism gives landscape architecture a theoretical basis upon which to move forward and it challenges all of the design professions to come together, supported by the many arts and science disciplines, to practice landscape as urbanism. *Landscape as Urbanism* is not an easy read but it is a worthwhile one.

DOUG CARLYLE is a principal at Dialog. After many years in Edmonton, he migrated to Calgary where he remains passionate about building communities through engaging public realm projects. Inspired by the joys of city life and Jane Jacobs, he has focused on making better places for over thirty years.

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PETER WILLIAMS

WHERE SCENERY MANAGEMENT IS THE LAW

> **FR_LP+** OÙ LA GESTION DU PAYSAGE A FORCE DE LOI

EN_

BC'S STATUS AS AN INTERNATIONAL

destination depends on the landscape's spectacular natural beauty. Mountain slopes, as viewed from a hiking trail or a highway corridor, are among the most highly visible landscapes, yet resource extraction industries often depend on these same areas. How can these competing uses continue to co-exist?

WHY VISUAL RESOURCE MANAGEMENT?

The goal of Visual Resource Management (VRM) is to protect the character of the landscape, and preserve BC's identity and sense of place. Residents highly value unaltered scenic landscapes, but where trees have been harvested, well-designed forest landscapes help assure the public that BC's forests are being managed responsibly. The quality of the natural landscape is also vital to outdoor recreation and tourism. Who wants to go river-rafting or wilderness camping in an obviously modified landscape?

HOW IT WORKS

So important are these values that BC established Visual Quality Objectives (VQOs) for the province's most scenic and visible landscapes. Visual Quality is one of eleven core values managed under the Forest and Range Practices Act, which governs forest operations on Crown land. Failure to achieve established VQOs may lead to investigation and prosecution of Forest Licensees.

Originally, BC developed the program to address alterations on the mid-ground

and background landscapes. Alterations are measured against a *Landform*: a distinct topographic feature that is three dimensional in form and is generally defined by ridges, drainage channels, valleys, shorelines and skylines. Increasingly, foreground views must be managed also, as harvesting adjacent to highway corridors is on the rise. The visibility of alterations is assessed in perspective view, from a *significant public viewpoint* whether on land or water. The regulation defines five categories of alteration – Preservation, Retention, Partial Retention, Modification and Maximum Modification – and each site is evaluated to determine whether individual VQOs are being achieved.

Some areas are sufficiently sensitive to warrant special consideration in strategic and operational planning. A Visually Sensitive Areas (VSA) encompasses not only visibility, but also the number of potential viewers and the level of concern, whether from recreational users of the landscape, or tourists, or residents. VSAs include landscapes that are visible from travel corridors with relatively high numbers of potential viewers.

Activities other than forestry can have a long-term or permanent impact on forested landscapes: oil and gas pipelines, mines, Liquefied Natural Gas (LNG) plants and wind farms. For such broad-scale projects, visual impacts are currently assessed during the project's Environmental Assessment process.

Landscape Architects working with VQOs may focus upon visual impact assessment, or upon site planning, or mitigation. LAs might, for example, design curvilinear forms and edge treatments in proposed forest

clearings; they might plan site infrastructure to take advantage of both topographic and vegetative screening; and they might take special care with route planning for linear infrastructure such as pipelines or hydro corridors.

To manage forest landscape aesthetics, LAs need to view the likely outcomes of proposed alternatives. GIS-based visualization software will produce near-photorealistic images, which are now essential tools for both Visual Impact Assessment and Visual Landscape Design. Once a model is created, it can be tested and revised with a proposed alteration, such as a cutblock design or facility site plan.

Since the VRM program's inception in the early 1980s, it has become a model for other jurisdictions in both Canada and the USA. Extensive Visual Landscape Inventory data has been collected and mapped through field investigation and the database is available online through the BC Data Catalogue. The spatial data includes Visual Quality Objectives, Visual Sensitivity Units and other information. It is hoped that all industries and developers will use the data to inform planning processes, even if the legislation governing a specific activity does not require visual resource protection. BC's rugged and wild character is reliant on wise stewardship and professional due diligence.

For VRM guidance, research publications and training materials, please visit: bit.ly/VisualResourceMgmt

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PHOTO COURTESY OF BC FLNRO, RESOURCE PRACTICES BRANCH



DON HESTER

SEEING THE BIG PICTURE

NEW STARTING POINTS IN BROAD-SCALE PLANNING

FR_ RESUMÉ

VOIR GRAND

Par le passé, la consultation publique n'était qu'une façon de valider des décisions d'urbanisme déjà prises. Aujourd'hui, on commence par la consultation. C'est un numéro d'équilibriste, conçu pour respecter des intérêts contradictoires et tenir compte des enjeux de durabilité. La définition de la durabilité elle-même s'est aussi élargie pour inclure non seulement l'environnement, mais aussi les préoccupations culturelles, sociales, économiques et gouvernementales. Deux projets d'AECOM dans le nord et le sud du Manitoba illustrent les pratiques contemporaines.

1 THE LARGEST LIGHTED MURAL IN THE WORLD AT 86 FEET, THE THOMPSON WOLF WAS BASED ON A ROBERT BATEMAN DESIGN. **1** PLUS GRANDE MURALE ÉCLAIRÉE AU MONDE, DU HAUT DE SES 30 MÈTRES, LE LOUP DE THOMPSON EST BASÉ SUR UN DESSIN DE ROBERT BATEMAN.

PHOTOS 1 JIM FOWLER

EN_

DURING THE EIGHT years that I served on the CIP National Awards of Planning Excellence Jury (2006 to 2014), "Public Consultation" and "Sustainability" went from being separate niche Categories of Planning Practice to criteria that are now considered essential to almost all Awards. At the same time, my regional planning work with AECOM changed perspective: the teams I led placed significantly more emphasis on both criteria.

True, these ideas were not new. In the mid-1970s, under Professor Alexander Rattray at the University of Manitoba, I was immersed in the "Ask the Land" approach, set out in Ian McHarg's *Design with Nature*, and the "Harvard Grid Model of Information Systems Planning" approach to Landscape Planning, which addressed a number of dimensions of sustainability. The 1970s ML Arch program also emphasized the importance of public

consultation. Today, however, our tools go far beyond the use of grids and punch cards in modeling systems on the land, and our approach to public engagement is more open-ended. In the last decade, our starting point itself has changed.

NEW STARTING POINTS

In the past, public consultation was basically used to validate planning decisions. Today, we begin with consultation, and it is no longer adequate simply to hold a meeting. Consultation is a fine balancing act, designed to respect competing interests, and to integrate sustainability issues into the process. The definition of sustainability itself has also broadened. We no longer focus primarily on the environment, but incorporate cultural, social, economic and governmental concerns. Throughout the process, since transparency is absolutely required, we document every engagement.



In the last decade, our starting point has changed. | Dans la dernière décennie, notre point de départ a changé.

Plan and the concurrent *Master Parks Plan* are both anchored by a comprehensive Public Engagement Strategy. More than 1200 people collaborated to define a Vision of Sustainability that suited the city's northern Manitoba context.

Throughout the extensive, four-round process, we convened over a dozen focus group sessions; a series of Public Open Houses, presentations and mall displays; sustainability surveys; five blogs and various presentations on the City of Thompson website and a Facebook site; and media engagements. Over 500 High School students responded to an on-line Student Sustainability Survey, following presentations to Senior High classes. We consulted parks and recreation user groups; we surveyed business, industry and social services stakeholders (who also attended focus group sessions). The City plans to continue consultation, to ensure ongoing feedback.

WHEN CONSULTATION MEETS DIPLOMACY

Sustainability issues and public engagement were also inextricably linked in a very different project in southern Manitoba. The *Manitoba-Minnesota Transmission Project* (MMTP) amply illustrated the complexity of planning for large landscapes. Manitoba Hydro needed to engage a broad cross-section of stakeholders, including aboriginal organizations and the general public, to assist in route selection and provide background required for the Environmental Assessment regulatory process. EPRI methodology (Electric Power Research Institute) was used for route selection, based on four pre-determined border crossings. The methodology relies on

stakeholder inputs to calibrate route selection models and was piloted by Manitoba Hydro on the MMTP and an earlier St. Vital Transmission Complex route selection because it provides greater transparency to the process, consistent with real public engagement. The public engagement process and route selection went hand-in-hand.

MEDIATING BETWEEN BUGS AND BUNNIES

AECOM conducted three-rounds of consultations, which included public meetings, 55 Key Person Interviews, workshops, and between 10 and 12 Public Open Houses per round. Analysis involved not only using feedback to calibrate a huge computer program to find the most appropriate transmission line routing options, but also mediating between “bugs and bunnies” and human concerns. There were a host of agricultural issues, for example, some easier to mitigate than others: from concerns about aerial spraying of crops to the effects of electromagnetic fields on cattle, to biohazards related to the potential spread of weeds and diseases between properties, and equipment use around huge towers. Our role was to assist in identifying the most appropriate compromises and mitigations of impacts.

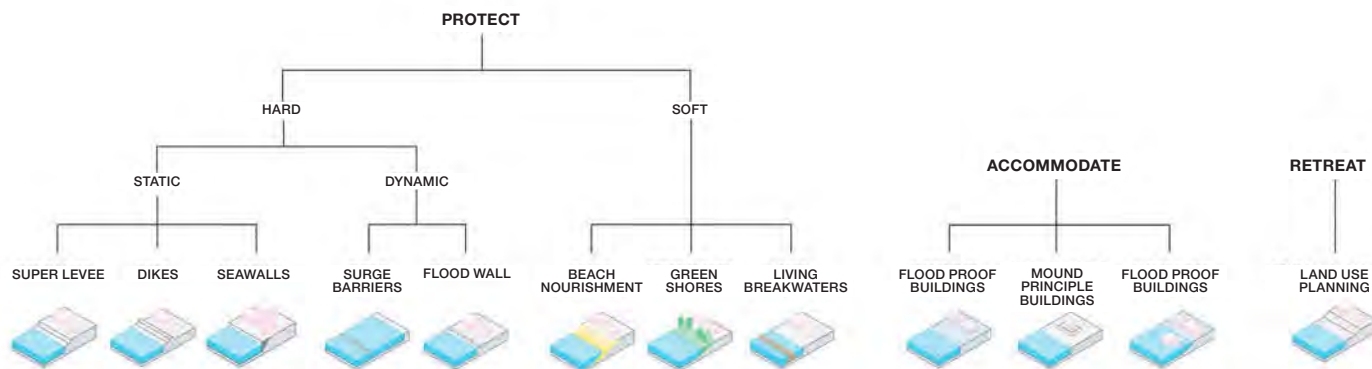
For Manitoba Hydro, as for the Thompson clients, it is no longer sufficient to rely on the expertise of engineers and planners, or on protocols and regulations. For regionally-based projects, there are no simple solutions, as we work hard to carefully balance interests for a sustainable future.

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Two AECOM projects in very different regions illustrate today's practices.

THOMPSON: DESCRIBING COMMUNITY

Thompson, Manitoba, is a city of 13,000 people which self-describes as the unique “Hub of the North”. When AECOM began to work with the city to shape a sustainable community plan, the issues on the table were something of a case study in how we define sustainable planning today: how to grow the city within the constraints of regional mining claims; how to address the vagaries of a resource-based economy; how to create a vibrant downtown; how to deal with aging infrastructure; how to deal with in-migration from First Nations and address different cultures, as well as a host of other considerations. Initially, AECOM provided sustainability information as a primer on the City's website; but the *Sustainable Community*



KEES LOKMAN

THE PORT OF VANCOUVER: NAVIGATING AN UNCERTAIN FUTURE

FR_ RESUMÉ

CAP SUR UN AVENIR INCERTAIN

La hausse du niveau des mers qui menace les villes portuaires de la planète n'a fait l'objet que d'une poignée d'études approfondies. Les projets mis en oeuvre ne se concentrent que sur les ports. Les enseignants de la Faculté d'architecture de l'UBC collaborent avec le Port de Vancouver pour identifier les risques et tracer des voies d'adaptation fondées sur la planification de scénarios.

EN_

SEA LEVEL RISE (SLR) is a major challenge for port cities around the world, and for the ports themselves, which sit at the land-water interface. Hurricanes Katrina (New Orleans), Sandy (New York) and Matthew (Miami) underlined both the vulnerability of existing port infrastructures and their importance to urban regions and to trade. Extreme climate events will proliferate in the future. It is therefore concerning that, to date, only a handful of in-depth studies and implemented projects focus on port adaptation.

Most established port planning is shaped by 20th century engineering practices, and focuses on short-term economic gain. It is true that many ports today, like the Port of Vancouver, are actively implementing measures to reduce greenhouse gas emissions, improve water quality and save energy. Nonetheless, little has been done in the context of SLR adaptation. There is considerable uncertainty in *how*, *when* and *where* SLR will

affect port infrastructures and operations, and current planning frameworks are incapable of responding to these challenges. Insufficient or inaccurate data combined with wide-ranging climate predictions further complicate matters.

To reduce vulnerability, planners and port managers require an up-to-date inventory of potential SLR risks and impacts across a range of scales, yet they rely heavily on global or national climate models with low spatio-temporal resolutions. These projections don't account for geographic specificity and local variability. Refined projections and "ground-truth" information will be critical.

PROTECT, ADAPT OR RETREAT?

Ports generally have three options: protect (by strengthening existing flood defenses); adapt (by elevating buildings); or retreat (by relocating to higher grounds). All strategies will have significant socio-spatial and environmental implications, particularly since ports control a great deal of land and their operations affect a wide range of stakeholders (both human and non-human). New cross-boundary planning frameworks will be essential to coordinate decision-making, share resources and create new financing mechanisms.

Robert Nichols, professor of coastal engineering at the University of Southampton and leading climate change

Containers

Warehouses

Buildings in Very Poor Condition

adaptation expert, has suggested three essential steps. Identify and invest in critical short-term measures (say to the year 2040) to keep an area safe. Monitor local, regional and global SLR trends over time, and then, based on these observations, develop long-term measures. This means that adaptation strategies need to be tested against high-end scenarios – for example, SLR of up to 2m by 2100. While the probability of such an event is unknown and perhaps unlikely, risk assessment can be extremely valuable in evaluating proposed spatial interventions.

In this context, faculty and students from UBC's School of Architecture and Landscape Architecture are working with the Port of Vancouver to identify SLR vulnerabilities/risks, and to develop pathways for adaptation based on scenario planning. This *research by design* project is premised on an idea that SLR adaptation is not a constraint for the Vancouver region, but rather an opportunity to envision new spatial developments and socio-ecological relationships.

VULNERABILITIES | OPPORTUNITIES

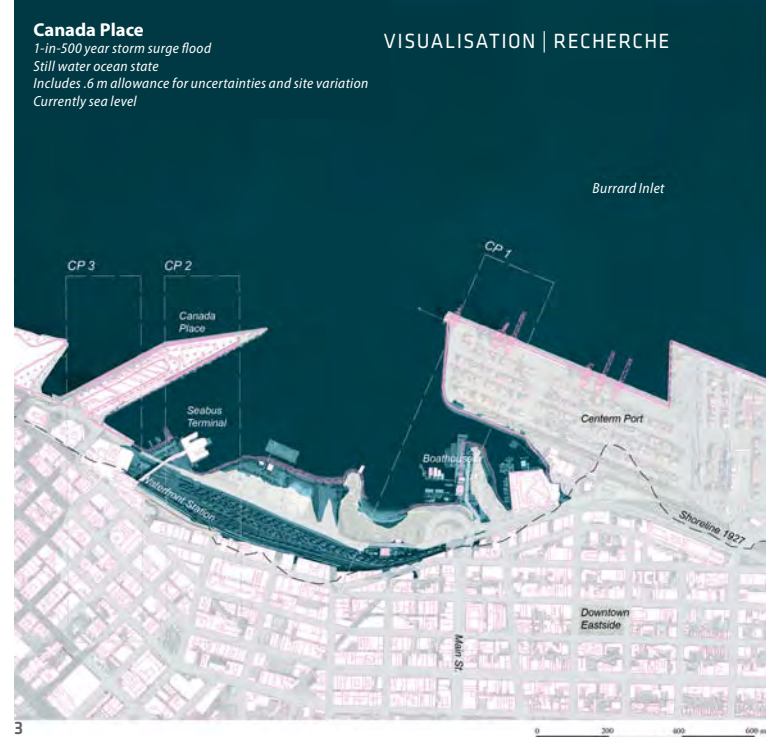
According to its website, Port of Vancouver is "the most diversified port in North America", operating across five business sectors (automobiles, break-bulk, bulk, container and cruise). It handles nearly 140 million tons of cargo from more than 170 world economies, valued at \$200 billion (2015). SLR could cause major disruptions to the flow of these goods and the livelihood of people directly or indirectly employed or benefiting from these activities.

Since the port is decentralized with many different operations in the Lower Mainland, our initial research focused on documenting the spatial conditions of the various sites, and the potential effects of SLR. We used medium-level climate change data and flood projections derived from the recently published *Lower Mainland Flood Management Strategy (2016)*, which was prepared by the Fraser Basin Council and Northwest Hydraulic Consultants. For the coastal sites, projections take into account 1m sea level rise, a 1-in-500 year storm surge flood, and 0.6m allowance for uncertainties and site variation. For sites along the

Few strategies speak directly to the adaptation of ports... | Peu de stratégies traitent directement de l'adaptation des ports...

Fraser River, projections are based on the 1-in-500 year flood, high tide conditions, 1m sea level rise, and 19,900-m³/sec peak flow. Based on these projections our research produced simple visualisations showing present day flood vulnerability during high tide, and projections of future flood risks. The visualizations show that most operations will be significantly impacted by future SLR if no measures are taken. Furthermore, the visualizations reveal the wide range of edge conditions and spatial contexts. This underlines the fact that there is no one-size-fits-all solution, and the port should evaluate a range of strategies.

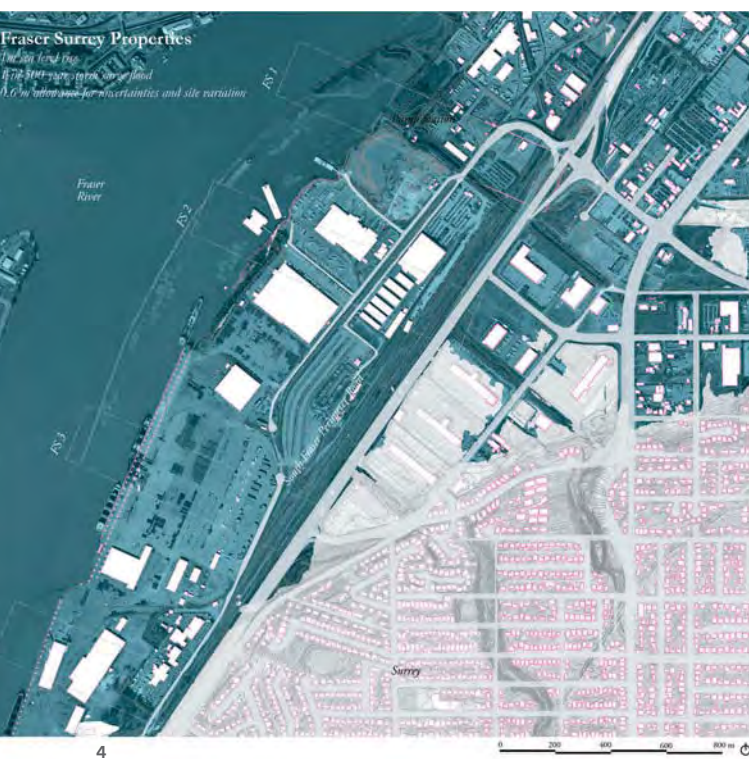
1 PROTECT-ACCOMMODATE-RETREAT 2 SURREY SECTION 3 CANADA PLACE
PLAN 1 PROTÉGER-ACCOMMODER-RETIRER 2 SECTION DE SURREY 3 PLAN DE CANADA PLACE



Transportation Infrastructure

Urban Development

High Ground



The focus shifts from investments that seek to control change to those that manage dynamic social-ecological systems. | L'attention se reporte des investissements destinés à contrôler le changement à ceux qui gèrent des systèmes socio-écologiques dynamiques.

Our team followed this initial mapping exercise by a literature review and case study research to identify broad adaptation approaches – from “hard” solutions such as super levees, floodwalls and storm barriers to soft/dynamic strategies, including living breakwaters and beach nourishments, as well as innovative building practices to (temporarily) accommodate water. A key takeaway from this ongoing research is that few strategies directly speak to the adaptation of ports. Moreover, most are scale-dependent: some strategies must be implemented on a regional or city-wide scale; others are more effective for a neighbourhood or individual parcel.

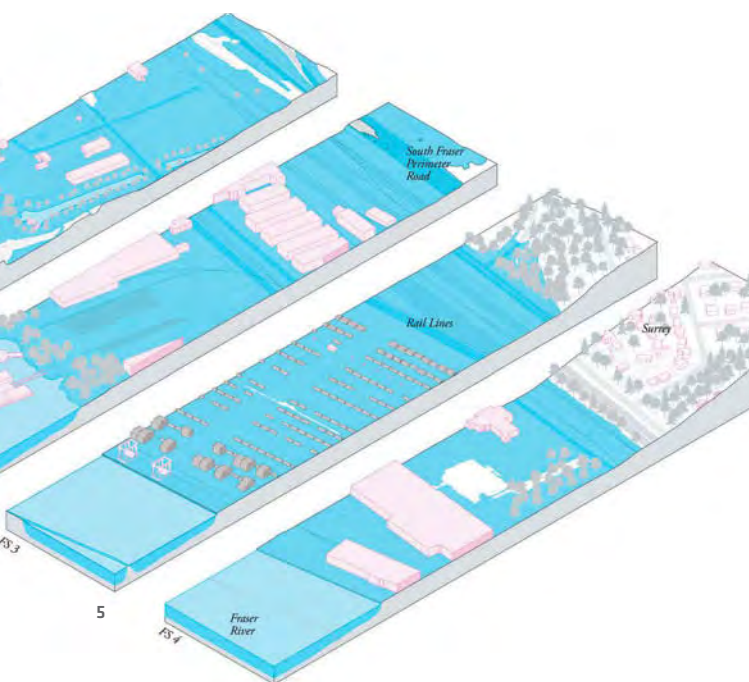
SETTING SAIL FOR SLR ADAPTATION

Next steps will include stakeholder engagement, to determine what major changes stakeholders foresee for the port, and what the objectives should be. In which ways are these changes viewed as beneficial or harmful? The answers will produce different priorities to guide the development of robust scenarios. Future visualizations will include potential regional POV responses to different SLR projections alongside the development of more detailed adaptation strategies to highlight new socio-spatial opportunities. The goal is to develop anticipatory solutions that are at once robust and flexible, taking into consideration uncertain future conditions and possibilities for upgrades while providing protection in the near-term. The focus here shifts from investments that seek to control change to those that manage dynamic social-ecological systems.

As ports experience first-hand the impacts of a changing climate their adaptive capacity is not only critical to economies, but also to the resilience of coastal landscapes at large. Taken together, this collaborative research project is a small step in the development of a holistic adaptation strategy for the Port of Vancouver and Vancouver region.

WITH THANKS

The author thanks Patrick Beech and Dina Dudokh, both MLA students at the University of British Columbia, for their ongoing assistance with research and graphics, and also David Flanders, whose input has significantly improved this research.



4 SURREY PLAN 5 SURREY SEA LEVEL RISE | 4 PLAN DE SURREY 5 HAUSSE DU NIVEAU DE LA MER À SURREY
ALL IMAGES COURTESY KEES LOKMAN + TEAM (SEE NOTE)

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ROB LEBLANC

IMMERSIVE 3D

THE GAMING WORLD AND THE REAL WORLD CONVERGE



1

EN_

The “science” of landscape architecture is an ever-changing and evolving playground. Technological changes are arriving at a staggering pace, radically changing how we work as landscape architects and how we interface with our clients and other professionals. This is our focus in our new LP column, @landtecanada.

THE STUDY OF LARGE LANDSCAPES requires an understanding of and sensitivity to the underlying relationships on the land which give rise to landscape stability or change. There are many new tools available to landscape architects which simplify the complex task of cataloguing and understanding each element, as we design large landscapes. Virtual representation of the real world is now within reach.

ACCURATE 3D MODELS FROM 2D IMAGES

In the next few years, 3D photography will become more commonplace, allowing landscape architects to replace 2D photos with 3D photos that can be imported with full geometry intact into 3D tools like SketchUp for measuring or further modelling. While we wait for low cost LIDAR cameras and drones (see our last issue), Pix4D (www.pix4d.com) has developed a tool for turning 2D drone aerial

photos into complete 3D models using web based photogrammetric tools. This approach allows consumer aerial drones to capture large scale areas as 3D models using Pix4D's software.

The software starts with a mobile app called Pix4Dcapture which creates a detailed flight plan for your drone. Once you have selected the desired area in the mobile mapping software, your drone will autonomously capture 2D images of your site from every angle using a pre-programmed flight path. After these photos are uploaded to Pix4D's servers, their software stitches together the images to create a high resolution, georeferenced orthomosaic (a scaled base map), a detailed digital surface model and 3D textured model of the site complete with buildings, trees and terrain. Yes, accurate 3D models from 2D images.

The software even allows users to create volume calculations or the data can be exported into GIS or CAD platforms like Autodesk's Civil 3D for more detailed slope mapping, aspect mapping, volume calculations, viewshed mapping and so on. Of course the real benefit is that these 3D models and analysis maps can be created without expensive or dated satellite imagery and without taking air photos using your own consumer drone. The application

can be used to capture the progress of construction projects in full 3D, to measure landscape changes over time or to create a base model for further 3D manipulation.

LOW COST VIRTUAL REALITY

With the adoption of low cost Virtual Reality (VR) platforms which were recently released in 2016 (Oculus Rift, HTC Vive, Playstation VR), these 3D tools will allow landscape architects to virtually navigate through very large landscapes in immersive 3D, assessing the impact of management scenarios or design interventions. VR will become more commonplace as a design tool in the coming years.

Halifax: demonstrating the design intent of Argyle Street, the City's first 'shared street', before the \$7m street retrofit starts construction in 2017.

13DPIX4D'S SOFTWARE CREATED 3D MODELS FROM 2D IMAGES | 1 LE LOGICIEL DE 3DPIX4D A CRÉÉ DES MODÈLES 3D À PARTIR D'IMAGES 2D.

PHOTOS 1 COURTESY PIX4D

...software stitches together the images to create a high resolution, georeferenced orthomosaic, a detailed digital surface model and 3D textured model of the site complete with buildings, trees and terrain.

The technology has recently been used in Halifax for the design of the City's first "shared street" on Argyle Street to demonstrate the design intent of a \$7m street retrofit before it starts construction in 2017. In this case, the entire street was 3D scanned using ground based LIDAR technology and the resultant 3D model was brought into SketchUp for further streetscape modelling. The final models were exported into Lumion (www.lumion3D.com) to create VR

panoramas to convey design intent using the Oculus Rift VR headset.

Though Lumion only supports static VR waypoints instead of gaming quality VR walkthroughs, this approach bridges the gap between the more complex gaming engines that currently restrict the widespread adoption of 3D VR modelling for most designers. Free game engine tools like the Cryengine (www.cryengine.com) and Unreal Engine (www.unrealengine.com) will eventually allow landscape architects to harness the power of VR design, but for today, they still require significant time and technological investment – too much for most landscape architecture firms. For now, rendering 3600 VR panoramas are easily within reach of most landscape architecture firms.

3D capture and modelling is the present and future of landscape architecture and the gaming world and real world will converge over the next decade allowing us to fully experience designs before they are ever built. Static 2D plans and details

will eventually give way to immersive 3D environments allowing for greater design democracy. These tools will become cheaper, faster and easier to learn over the coming decade.

If you have a project that employs a new technology that could impact the future of our profession, please join the discussion on **TWITTER: @landtecanada**.

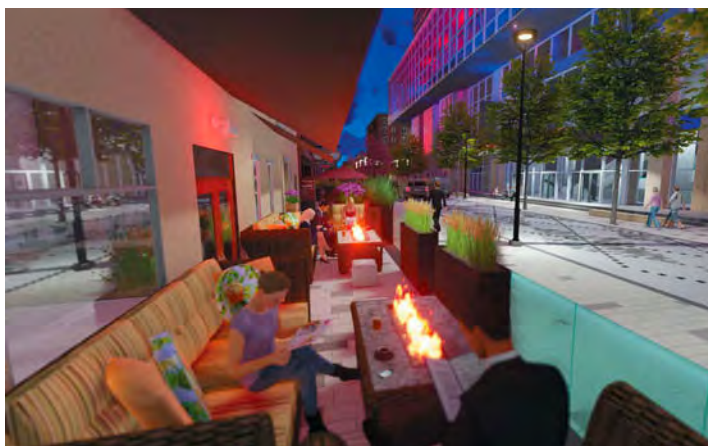
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2 NATALIA ULTEMARI OF EKISTICS CONTROLLING A DRONE WITH A VR HEADSET 3,4,5 ARGYLE STREET SHARED STREET PROJECT IN HALIFAX WITH PROPOSED SIDEWALK CAFÉ | 2 NATALIA ULTEMARI D'EKISTICS PILOTANT UN DRONE AU MOYEN D'UN CASQUE DE RV 3,4,5 PROJET DE PARTAGE DE LA RUE ARGYLE À HALIFAX AVEC LE CAFÉ-TERRASSE PROPOSÉ

PHOTOS 2,3,4,5 ROB LEBLANC



2, 3, 4, 5



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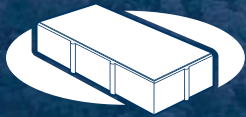


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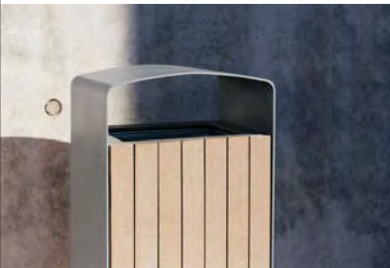
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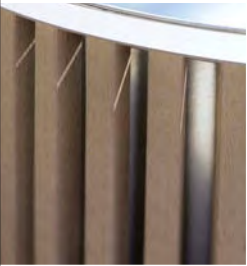
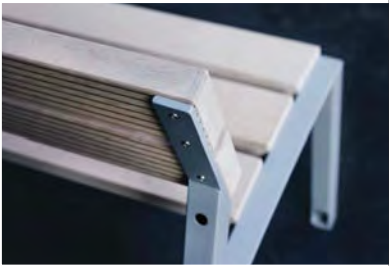
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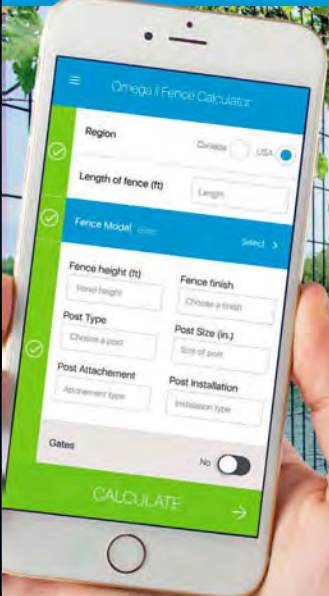
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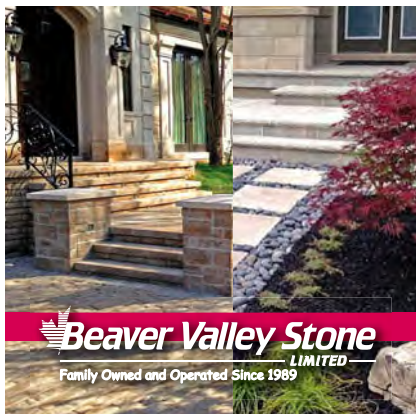



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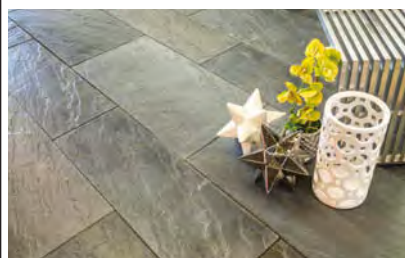
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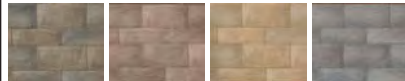
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SUE SIRRS

THE SIMPSONS COPIED MY SUBMARINE!

“And our friends are all aboard...” ...The Beatles, “Yellow Submarine”

EN_

“**DRUM ROLL PLEASE!**” said Sue Sirrs of Outside! Planning and Design Studio. “The Simpsons copied my submarine playground.”

The image from the Simpsons’s broadcast featured here was taken by a 14-year-old as he watched the episode. He had taken part in a design session for kids, run by Outside! as the playground was being planned back in 2010, and immediately recognized the funky submarine. He snapped the photo on his iPhone.

Said Sirrs, “I’m pretty sure if we were in the States we’d sue, but since we’re Canadian, I think we’ll take it as a compliment! I’m considering gelling my hair up like Bart’s and posing in the same position!”

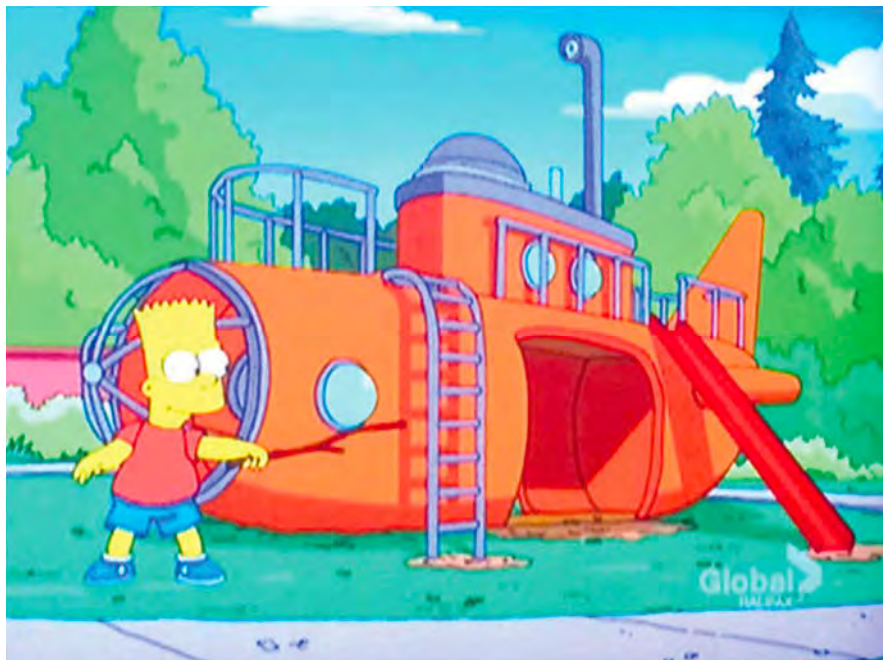
FR_

« **ROULEMENT DE tambour** s’il vous plaît! » lance Sue Sirrs du studio Outside!. « Les Simpsons ont plagié mon terrain de jeu en sous-marin. »

L’image des Simpsons présentée ici a été prise par un jeune de 14 ans alors qu’il regardait l’épisode. Il avait pris part à une séance de design pour enfants, dirigée par Outside! alors que l’on planifiait le terrain de jeu en 2010, et il a immédiatement reconnu le fameux sous-marin. Il a pris la photo sur son iPhone.

Mme Sirrs ajoute : « Je suis assez sûre que si nous étions aux États-Unis, nous internerions des poursuites, mais puisque nous sommes au Canada, je pense que nous allons le prendre comme un compliment! » J’envisage de me coiffer comme Bart et de poser dans la même position!

TOP | AU DESSOUS : BART AND THE SUBMARINE:
IMAGE CAPTURED ON AN IPHONE | BART ET LE
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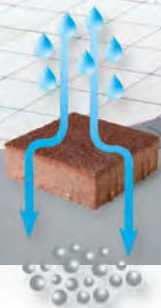
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IMAGES FROM KONGJIAN YU

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LP'S TOP COVER CONTENDERS

HOW TO CHOOSE a cover? It is at once the most frustrating – and the most gratifying – step in the design process. Which of the stellar images we test will be “the chosen one”, the image that best expresses our theme, that captures the passion of our guest editor, and that we all, simply, love? Here, designer-par-excellence Wendy Graham shares our top contenders this issue. And Jason Hare, who prepared the final cover image while working in the University of Winnipeg's FABLab, updates us on the FABLab's recent work.



1



2

01 From Kongjian Yu: Turenscape's image showing ponds serving as essential water catchments in hilly lands.

02 From Guest Editor Doug Olson, 02 Planning + Design, an intriguing mapped expression of the Calgary Regional Context.



3

03 From Jason Hare at Winnipeg's FABLab: Digitizing landscapes using point cloud construction – aerial images are captured by a small UAV (drone), and ultimately reconstructed into a three dimensional digital model of a landscape, consisting of millions of points.

JASON HARE

ABOUT THE COVER

IN THE 2016 summer issue of LP, we wrote about the exciting collaborative projects undertaken at Winnipeg's FABLab.

LINK to Summer 2016, page 48

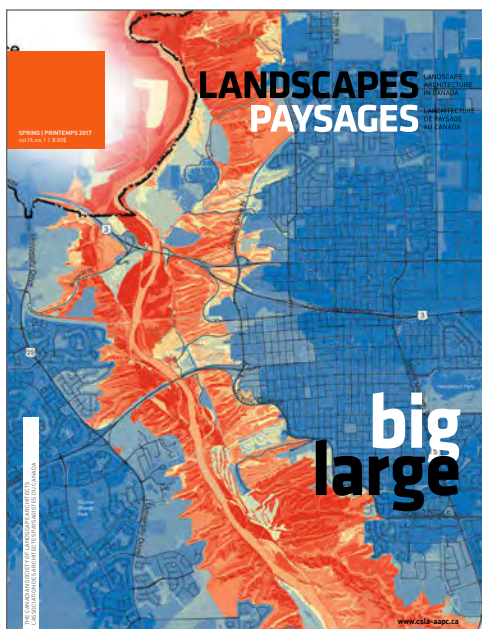
What's happening at FABLab lately?

The 2016 Warming Huts brought together 13 students from a range of architectural disciplines, who worked directly with the FABLab's Lancelot Coar and Kim Wiese to research and erect the world's largest self-supporting fabric ice structure. This project went on to be presented in Tokyo at the 2016 IASS conference.

LINK <http://faumfablab.wordpress.com/>

During the summer of 2016 the FABLab was a central part in hosting, prototyping and fabricating over 70 bee houses used to study and encourage the habitat of native pollinators. This was an international open competition organized by the University of Manitoba's Office of Sustainability, Department of Entomology and Faculty of Architecture, as well as Parks Canada Campus Club.

LINK <http://news.umanitoba.ca/u-of-m-named-as-2016-aashe-campus-sustainability-achievement-award-winner-for-bee-house-lab/>



4



5

04 From Our Guest Editor Doug Olson's extensive files again: a jewel-like mapping of Lethbridge Valley.

05 From Mark Schollen at Schollen and Company: the awe-inspiring expanse of Canada's newest national park – and first national urban park – captured by “drone pilot”, Shana Husband.

KONGJIAN YU

LES VILLES ÉPONGES

À LA REDÉCOUVERTE DE LA SAGESSE PAYSANNE

FR_

LES VILLES MODERNES, tout particulièrement les nouvelles villes chinoises, sont aux prises avec de graves problèmes d'eau. Elles dégradent le paysage à grande échelle. On met alors en branle de vastes solutions : érection de murs de protection contre les crues, de grands aqueducs et d'autres infrastructures ; installation de conduites souterraines toujours plus épaisses ; multiplication des stations de traitement pour purifier l'eau riche en nutriments. Règle générale, ces projets, en plus d'être terriblement coûteux, ne durent pas.

Il existe une autre option : s'inspirer de la sagesse de la paysannerie, dont l'agriculture aquatique transforme de vastes paysages depuis des milliers d'années. Partout dans le monde, on trouve des paysans qui utilisent des techniques de déblai-remblai pour maximiser leurs cultures. En transformant la surface de la Terre, ils ont relevé leur plus gros défi : survivre.

Pour le paysan, le déblai-remblai représente une seule et même action. Le terrassement agricole se fait sur place ; le coût de main-d'œuvre et de transport des matériaux est donc minime. Le déblai-remblai a permis aux paysans de s'adapter à grande échelle grâce à trois reliefs modulaires : la terrasse, l'étang et la digue.

Le paysan qui manque de surfaces arables en terrain incliné crée des



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PHOTOS 1-4 EN CLIMAT DE MOUSSONS, LA MÉTHODE SIMPLE DU DÉBLAI-REMBLAI INSPIRÉE DE LA SAGESSE PAYSANNE TRANSFORME LES PAYSAGES. **1** LE PARC YANWEIZHOU, CONÇU POUR S'ADAPTER AUX CRUES, EN PLEINE CRUE CENTENNALE. **2** RIZIÈRES EN TERRASSES. **3 + 4** DES ÉTANGS RETIENNENT L'EAU PRÉCIEUSE EN TERRAIN VALLONNÉ. | **PHOTOS 1-4** IN MONSOON CLIMATES, SIMPLE CUT-AND-FILL TACTICS INSPIRED BY PEASANT WISDOM TRANSFORM THE LANDSCAPES. **1** THE FLOOD RESILIENT DESIGN OF YANWEIZHOU PARK DURING A 100-YEAR FLOOD **2** TERRACED RICE PADDIES **3 + 4** PONDS SERVING AS ESSENTIAL WATER CATCHMENTS IN HILLY LANDS.



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terrasses. En pays de moussons, comme l'Indonésie, la Malaisie, les Philippines et les régions montagneuses du sud-ouest de la Chine, les terrasses de rizière occupaient de vastes superficies.

Il y a plus de 2000 ans, on combinait terrasses et étangs pour réguler le cycle crue-sécheresse. Un livre chinois datant de la dynastie Han avance que, pour 4 mu de champs (1 mu = 666 mètres carrés), il faut prévoir 1 mu d'étangs. En région de moussons, sur terrain incliné, ces bassins jouent un rôle crucial pour capter l'eau.

Dans les deltas fluviaux, la **digue** et le bassin permettent de transformer les zones marécageuses exposées aux

crues (comme le delta de la rivière des Perles et le delta du fleuve Yangzi) en terres productives.

Outre ces simples méthodes agricoles qui permettent de transformer un terrain inhospitalier (pente sèche, delta humide) en terres arables, les paysans pratiquaient la rotation des cultures pour maximiser le rendement, ce qui leur a permis d'alimenter l'humanité pendant des milliers d'années.

L'ironie, c'est que ces paysages productifs pendant des siècles doivent céder leur place à l'urbanisation. On nivelle d'excellentes terrasses pour en faire des « terres à bâtir ». On assèche

de petits étangs pour les remplacer par des conduites souterraines de drainage. L'agriculture mécanique se substitue aux digues. L'équilibre de l'écosystème est brisé, entraînant inondations, sécheresses et disparitions d'habitats. Partout dans les villes chinoises, l'infrastructure grise règne, contrebalancée par des paysages ornementaux si onéreux à entretenir qu'on n'a plus d'argent pour transformer le paysage à grande échelle.

Depuis près de vingt ans, Turenscape s'efforce de ressusciter la sagesse antique du paysan. Les quatre projets qui suivent illustrent nos résultats.

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1. LE PARC D'EAUX PLUVIALES DE QUNLI UNE ÉPONGE VERTE POUR UNE VILLE RÉSILIENTE À L'EAU

En 2009, Turenscape a reçu le mandat de concevoir un parc de 34 hectares en plein centre d'une nouvelle ville. Le site du parc, bien que désigné zone humide protégée, était menacé : les routes et le développement en cours tout autour l'avaient coupé de ses sources d'eau. Même si nous devions simplement préserver ces terres humides, nous avons proposé de transformer le secteur en parc urbain d'eaux pluviales. Ce parc pourrait fournir de multiples services écosystémiques, en plus d'offrir un bel espace public.

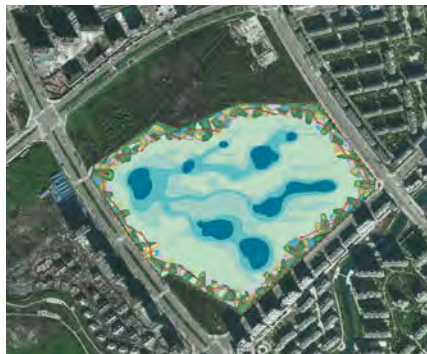
Était-ce réalisable simplement et à peu de frais, au cœur de la ville ? Oui, avec l'aide de la sagesse paysanne. Nous avons procédé par déblai-remblai pour créer un système de bassins et de digues sur le pourtour du site. Cet anneau filtrant ceinture la région centrale où l'habitat naturel se développe librement.

Ce terrassement minimal a transformé le site. L'anneau spongieux sert de tampon entre la nature et la ville. Les bassins recueillent les eaux de ruissellement des nouveaux quartiers urbains, puis relâchent de l'eau filtrée dans le marais. Des herbes marécageuses indigènes et des graminées poussent à diverses profondeurs, mettant en marche des processus naturels ; des bouleaux blancs (*Betula pendula*) croissent en boisés denses sur des monticules. Ces monticules sont rattachés à l'anneau de bassins par des sentiers pour permettre aux piétons de se promener en forêt ; plateformes et bancs encouragent l'observation.

Il a suffi d'un petit changement en bordure du terrain pour transformer le site en une éponge écologique qui recueille, purifie et emmagasine les eaux pluviales pour réalimenter l'aquifère. Les eaux pluviales, qui représentaient un risque d'inondation, participent maintenant au bien-être environnemental de la ville.

PHOTOS 1-4 LE PARC D'EAUX FLUVIALES QUNLI. UTILISATION D'UN TERRASSEMENT MINIMAL : UN SYSTÈME DE DIGUES ET DE BASSINS FORME UNE BANDE FILTRANTE POUR LA ZONE HUMIDE, ALORS QUE LA NATURE SUIT SON COURS AU CENTRE. DES PLATEFORMES ET DES TOURS D'OBSERVATIONS ATTIRENT LES VISITEURS. |

PHOTOS 1-4 QUNLI STORMWATER PARK. USING A MINIMUM EARTHWORK STRATEGY – A POND-AND-DYKE SYSTEM CREATES A FILTERING BAND FOR THE WETLAND WHILE IN THE CENTRE, NATURE EVOLVES. PLATFORMS AND VIEWING TOWERS BRING VISITORS.



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BEFORE



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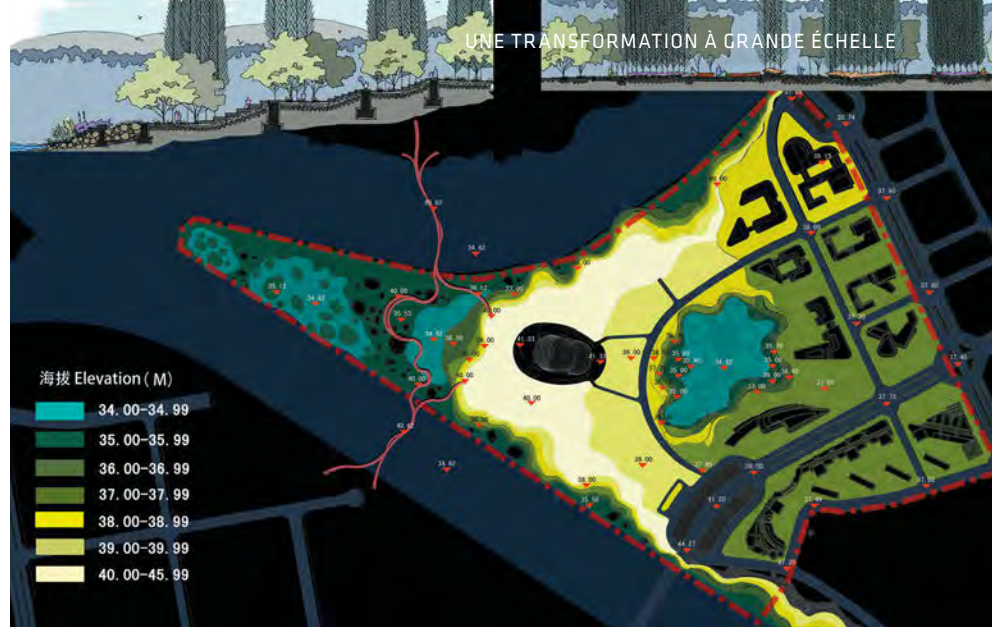
2. RALENTIR L'EAU LE PARC DE LA ZONE HUMIDE MINGHU À LIUPANSHUI

Liupanshui, ville industrielle de 600 000 habitants, souffrait des problèmes environnementaux habituels. Turenscape devait créer une infrastructure écologique pour organiser les ruisseaux, terres humides et autres terres du Parc de la zone humide Minghu en un système de gestion et de purification des eaux pluviales. Ce système aurait deux fonctions : atténuer les inondations urbaines et alimenter la rivière après la saison des pluies.

Cette fois encore, nous avons pris exemple sur l'agriculture locale. Le déblai-remblai nous a servi à créer des terrasses humides et des bassins de rétention, l'emplacement et la forme de ces éléments étant déterminés par la géographie et une analyse de l'écoulement. Ces habitats en terrasses régulent le débit; les plantes indigènes (plus semées que plantées) et les micro-organismes extraient les nutriments en trop pour dynamiser leur croissance. La revitalisation par les plantes indigènes s'est étendue aux berges de la rivière, optimisant le pouvoir autopurificateur de cette dernière.

Le parc Minghu s'adresse aussi au citoyen. Des sentiers pédestres et des pistes cyclables suivent les cours d'eau et permettent de passer d'une terrasse à l'autre. Le site propose des plateformes de repos, des pavillons et une tour d'observation accessibles à tous, le tout intégré au système naturel conçu, afin d'encourager l'apprentissage, les loisirs et l'expérience esthétique.

PHOTOS 1-3 LE PARC DE LA ZONE HUMIDE MINGHU. UN PAYSAGE MORNE (PHOTO 2) SE TRANSFORME EN PARC POPULAIRE; UN SYSTÈME D'EAUX PLUVIALES ATTÈNUE LES INONDATIONS ET ALIMENTE LA RIVIÈRE EN SAISON SÈCHE. 3 SUR LES PENTES, LES MILIEUX HUMIDES EN TERRASSE S'INSPIRENT DE LA SAGESSE PAYSANNE. | **PHOTOS 1-3** MINGHU WETLAND PARK. A BLEAK LANDSCAPE (PHOTO 2) BECOMES A PARK FOR PEOPLE, AND A STORMWATER SYSTEM WHICH MINIMIZES URBAN FLOODING AND SUSTAINS THE RIVER IN DRY SEASON. 3 ON STEEP SLOPES TERRACED WETLANDS AGAIN REFLECT PEASANT INSPIRATION.



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3. UN PAYSAGE QUI S'ADAPTE AUX INONDATIONS LE PARC YANWEIZHOU À JINHUA

Les changements climatiques font vivre de plus en plus d'inondations aux villes en climat de moussons. Selon nos recherches, 70 pour cent de la population et du PIB se trouvent en secteur à haut risque d'inondation. Les villes investissent massivement dans l'infrastructure pour contrôler les crues, mais leurs murs de béton et leurs barrages de plus en plus hauts détruisent le système vivant. Les précieuses eaux pluviales finissent dans l'océan, alors que deux villes chinoises sur trois manquent d'eau.

Cas typique : la ville de Jinhuan, dans la province du Zhejiang. Celle-ci subit des inondations chaque année. Sis au confluent des rivières Wuyi et Yiwu, le parc Yanweizhou est une masse terrestre de 64 hectares dont la forme évoque la « yanweizhou », la queue du moineau. On avait érigé de hauts murs de béton (et on en prévoyait d'autres) pour protéger le secteur contre les crues vingtennales et bicentennales. Ces murs de protection auraient créé un parc sec au-dessus du niveau de l'eau et empêché le développement d'un écosystème riverain dynamique et la création d'un espace vert urbain. En outre, les rivières de 100 mètres de largeur isolaient le parc de la ville. Turenscape a donc conçu une solution de terrassement et convaincu la municipalité de démolir certains murs de protection et de cesser d'en construire.

Le projet Yanweizhou a utilisé le déblai-remblai pour créer un endiguement en terrasses résilient à l'eau et recouvert de végétation indigène adaptée aux crues. Les terrasses de plantation proposent des sentiers pédestres et des pavillons inondables dont on ferme l'accès pendant les courtes périodes de crue. Ces inondations sont les bienvenues, puisqu'elles apportent le limon qui nourrit la croissance des graminées. En outre, l'endiguement reçoit et filtre les eaux pluviales provenant de la chaussée située au-dessus.

La réussite de ce projet est déjà confirmée. Depuis son ouverture en mai 2014, le parc a vu passer 40 000 visiteurs, même s'il a vécu une crue centennale. Les techniques qui y ont été utilisées ont été reprises dans d'autres projets de restauration écologique sur les rivières de Jinhua. Cette municipalité sert de ville-éponge modèle dans les médias chinois et de l'étranger.



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PHOTOS 1-3 LE PARC YANWEIZHOU. LE PLAN DU SITE (PHOTO 1) MONTRE COMMENT LES CONCEPTEURS ONT AMADOUÉ LES CRUES EN ENLEVANT LES MURS DE BÉTON (PHOTO 2). LES PONTS S'ÉLÈVENT AU-DESSUS DU NIVEAU DE CRUE BICENTENNALE; LES TERRASSES, NOURRIES PAR LE LIMON DES CRUES, ENCOURAGENT LA CROISSANCE DES GRAMINÉES, MÊME EN SAISON SÈCHE (PHOTO 3). | **PHOTOS 1-3** YANWEIZHOU PARK. THE SITE PLAN (PHOTO 1) INDICATES HOW THE PROJECT PLANNERS MADE FRIENDS WITH FLOOD WATERS, AFTER CONCRETE WALLS (PHOTO 2) WERE REMOVED. BRIDGES ARE ELEVATED OVER 200-YEAR FLOOD LEVELS, WHILE TERRACES ENRICHED BY SILT FROM FLOODING ENCOURAGE LUSH GRASSES EVEN IN DRY SEASON (PHOTO 3). |



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4. UNE MOSAÏQUE DE TERRE ET D'EAU LE PARC LUMING À QUZHOU

La ville de Quzhou, dans la province chinoise du Zhejiang, est connue mondialement pour sa position stratégique sur la côte est de la Chine. Pendant la Seconde Guerre mondiale, son petit aéroport a servi de base pour le raid de Doolittle mené par l'armée américaine le 18 avril 1942.

Aujourd'hui, cette ville compte 2,5 millions d'habitants. D'une superficie de 32 hectares, le parc Luming est entouré de développement urbain intensif et bordé d'une rivière à l'ouest et d'un boulevard urbain à l'est. Le paysage forme une mosaïque de collines ondulées, d'affleurements de grès rouge, de buissons, de prés et de champs agricoles abandonnés, sans oublier une plaine inondable riveraine.

En Chine, pour développer un grand quartier urbain, on a l'habitude de niveler le site pour simplifier l'installation de l'infrastructure. Le parc Luming offrant une occasion exceptionnelle, Turenscape a proposé de créer plutôt un grand parc urbain qui servirait à la fois d'espace vert récréatif, d'écosystème holistique et de réponse aux grands problèmes du changement climatique, de la sécurité alimentaire et de la résilience à l'eau. Le parc Luming permettait d'expérimenter une nouvelle esthétique de paysage combinant productivité et facilité d'entretien. Urbanisme agricole, intervention minimale, paysage performatif : on pouvait intégrer tout cela à une stratégie de terrassement qui « amadouerait la crue ».

Encore une fois, l'innovation s'est inspirée des techniques utilisées par les paysans depuis des millénaires. Nous avons retiré les endiguements bétonnés pour permettre à la rivière et aux zones humides de fluctuer naturellement. Nous avons conservé les systèmes de drainage en ajoutant des baissières biologiques aux champs et aux zones inclinées pour retenir et filtrer les eaux pluviales qui pourraient servir à l'irrigation, au besoin. Nous n'avons pas touché aux habitats, mais nous avons introduit des cultures productives dans les champs abandonnés. Ces cultures se font en rotation : canola au printemps, tournesol en été et en automne, sarrasin au début de l'hiver. Dans les prés, on alterne mélange d'espèces florales et

autres cultures productives, comme des parcelles de chrysanthèmes vivaces dont les fleurs servent à la médecine traditionnelle chinoise.

Un réseau de circulation (trottoirs, ponts, plateformes, pavillons, tour d'observation) invite les visiteurs à explorer cette mosaïque en surplomb. Il offre un cadre d'observation au désordre de ce parc productif, le rendant plus agréable par le biais d'expériences interactives. Ce parc à la palette si variée est devenu une oasis urbaine dynamique au rythme de célébrations inusitées, comme des rassemblements spontanés déclenchés sur les réseaux sociaux par des citoyens qui suivent les floraisons saisonnières. Ces événements encouragent les citoyens à apprécier le passage des saisons, si facilement oublié dans le brouhaha de la vie en ville. Près de 80 pour cent des citadins chinois étaient encore fermiers il y a 20 ou 30 ans. Ce lien avec la nature peut rafraîchir la mémoire de ces ex-ruraux et ranimer le respect que nous portons à la sagesse antique.

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PHOTOS 1-3 LE PARC LUMING DE QUZHOU. DES CHAMPS ABANDONNÉS TRANSFORMÉS EN RICHES TERRES AGRICOLES. DES MÉTASÉQUOIAS BORDENT LES SENTIERS POUR RAFFRAÎCHIR LES PIÉTONS, MAIS LES CULTURES PROFITENT DU SOLEIL. | **PHOTOS 1-3** QUZHOU LUMING PARK. ABANDONED FIELDS ARE TRANSFORMED INTO RICH FARMLAND; DAWN REDWOOD TREES LINE ELEVATED PATHS, OFFERING PEDESTRIANS SHADE WHILE THE CROPS ARE IN SUN.



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more... SPONGE CITIES



THE FLOOD RESILIENT DESIGN OF YANWEIZHOU PARK DURING A 100-YEAR FLOOD 2 TERRACED RICE PADDIES | LE PARC YANWEIZHOU, CONÇU POUR S'ADAPTER AUX CRUES, EN PLEINE CRUE CENTENNALE.





QUZHOU LUMING PARK. DAWN REDWOOD TREES LINE ELEVATED PATHS, OFFERING PEDESTRIANS SHADE WHILE THE CROPS ARE IN SUN. | LE PARC LUMING DE QUZHOU. DES MÉTASÉQUIOIAS BORDENT LES SENTIERS POUR RAFRAÎCHIR LES PIÉTONS, MAIS LES CULTURES PROFITENT DU SOLEIL.





AN AERIAL VIEW OF QUZHOU LUMING PARK WHERE ABANDONED FIELDS WERE TRANSFORMED INTO RICH FARMLAND. TURENSCAPE INTRODUCED PRODUCTIVE CROPS WHICH ROTATE ANNUALLY: BUCKWHEAT IN EARLY WINTER, CANOLA FLOWERS IN SPRING, AND SUNFLOWERS (PICTURED HERE) IN SUMMER AND FALL. | DES CHAMPS ABANDONNÉS TRANSFORMÉS EN RICHES TERRES AGRICOLES.





BIRD'S EYE VIEW OF THE QUNLI STORMWATER PARK IN SUMMER USING A MINIMUM EARTHWORK STRATEGY - A POND-AND-DYKE SYSTEM CREATES A FILTERING BAND FOR THE WETLAND WHILE IN THE CENTRE, NATURE EVOLVES. PLATFORMS AND VIEWING TOWERS BRING VISITORS.



BRENT RAYMOND

UN TOUT AUTRE GENRE DE PARC

LES MÊMES POSSIBILITÉS REMARQUABLES

FR_
LA VALLÉE DE la rivière Don a longtemps été l'un des espaces les plus mal compris de Toronto, et l'un des plus sous-estimés. Il faut dire que le temps n'a pas toujours joué en sa faveur. Pourtant, au cours des dernières décennies, son histoire s'est trouvée étroitement liée à l'évolution de notre relation avec la nature.

1 UNE VUE AÉRIENNE DU COURS INFÉRIEUR DE LA VALLÉE DE LA RIVIÈRE DON, DE LA BRIQUETERIE JUSQU'AU LAC ONTARIO | **1** AERIAL VIEW OF THE LOWER DON RIVER VALLEY FROM DON VALLEY BRICK WORKS TO LAKE ONTARIO.

PHOTO 1 VITO RICCIO

Aujourd'hui, la ville de Toronto en est pour ainsi dire à un carrefour. Notre appréciation des paysages évolue continuellement, et la compréhension que nous avons de l'importance de l'écologie au cœur des environnements urbains ne cesse de s'approfondir. Pour la vallée de la rivière Don, ce pourrait être une époque fabuleuse.

LA REDÉCOUVERTE D'UN ENDROIT UNIQUE

À bien des égards, la vallée de la rivière Don évoque l'histoire de Toronto. Si son côté marécageux, ses pentes raides et ses inondations fréquentes ont résisté à

un développement intensif, les pionniers avaient cherché à exploiter la puissance de la rivière pour alimenter leurs moulins. Cet héritage est encore visible à la briqueterie et à Todmorden Mills, qui étaient jadis étroitement liés.

Au début, la vallée était aussi un lieu d'évasion : on flânait sur les rives pour se détendre ou pour trouver l'inspiration. Toutefois, en raison de certaines caractéristiques du terrain, on y a bientôt vu un endroit dangereux, et un espace où caser tout ce qui pouvait gêner le regard – décharges informelles et dépotoirs officiels, chemins de fer, autoroutes, couloirs de services publics...





Pour nous inspirer, nous sommes remontés jusqu'aux travaux de Fredrick Law Olmsted et à la conception de l'Emerald Necklace de Boston. La vallée de la rivière Don est tout aussi prometteuse.

Le cours d'eau naturel de la rivière a été sensiblement modifié au fil des décennies et, comme il fallait s'y attendre, ces interventions ont contribué à la détérioration de son hydrographie.

Aujourd'hui, la vallée est un espace de mixité sociale unique bordant certains des quartiers les plus aisés comme les moins fortunés. On estime que 80 000 résidents s'établiront dans de nouvelles communautés au cours des prochaines décennies. Et déjà, la vallée est devenue le « jardin » du centre-ville de Toronto, avec ses espaces verts facilement accessibles. La briqueterie Evergreen est une des destinations les plus appréciées de la ville, et tant le village des athlètes panaméricains que Corktown Commons du côté de West Don Lands ont été couronnés de succès.

DES CONTRADICTIONS APPARENTES

En 2012, la Ville de Toronto et l'Office de protection de la nature de Toronto et de la région ont confié à une équipe multidisciplinaire dirigée par mon cabinet, DTAH, le mandat de préparer un plan

2 LA DÉMONSTRATION DU PLAN DIRECTEUR DE LA VALLÉE DE LA RIVIÈRE DON. **3** UN CADRE CONCEPTUEL : DIFFÉRENTS TYPES DE PASSAGES POUR OFFRIR DES OPTIONS AUX USAGERS **4** LE PASSAGE FERROVIAIRE INFÉRIEUR SOUS LE COULOIR DE BELLEVILLE A ÉTÉ RÉALIGNÉ POUR EN AMÉLIORER LA SÉCURITÉ ET EN FACILITER L'ACCÈS. | **2** DON RIVER VALLEY MASTER PLAN DEMONSTRATION **3** CONCEPTUAL FRAMEWORK: LINKS AND LOOPS TO PROVIDE CHOICE TO USERS **4** REALIGNED UNDERPASS BENEATH THE BELLEVILLE RAIL CORRIDOR TO IMPROVE SAFETY AND ACCESS.

PHOTOS 2, 3, 4 DTAH

directeur visant à améliorer le Lower Don Trail. Ce sentier de six kilomètres s'étend de Pottery Road au nord, jusqu'à Parliament Street au sud. Nous devons moderniser l'installation datant de plusieurs décennies et développer des stratégies pour faciliter l'accès au sentier, introduire de l'art public et améliorer la qualité environnementale de la vallée.

Sur une période relativement courte – six mois –, nous avons cherché à concilier une contradiction apparente. Comment faire en sorte qu'un plus grand nombre de personnes profitent des bienfaits de la vallée, tout en protégeant, et en améliorant carrément, son environnement naturel ? C'est notre compréhension des systèmes à grande échelle qui nous a permis de formuler des recommandations éclairées. Nous avons élargi la réflexion pour explorer le fonctionnement de la vallée : il ne s'agit pas d'un site isolé, mais de l'interface entre un paysage naturel fragile et un environnement urbain dense.

TRAVAILLER EN HARMONIE

Le plan directeur adopte une approche claire de l'urbanisme paysager : la vallée de la rivière Don est un système continu et interconnecté. Nos recommandations vont au-delà des berges pour embrasser les quartiers avoisinants, en tenant

compte de l'ensemble de la vallée, que l'on regarde à travers quatre lentilles différentes : la connectivité du paysage, les routes parallèles, les centres et leurs enceintes, les sentiers et les circuits. Chaque thème relève d'un système, et l'on identifie les schémas qui permettent d'organiser l'espace.

Le plan directeur définit une série logique et interconnectée de projets futurs, qui sont simplement esquissés. Ce plan s'appuie sur un ensemble de travaux antérieurs. Certains de ces travaux remontent aux années 80 et ont impliqué de nombreuses personnes dévouées, dont le célèbre architecte paysagiste canadien Michael Hough. La mise en œuvre détaillée de chaque projet s'inspire ainsi des projets précédents. Les travaux de revitalisation réalisés en 2013 et en 2015 ont été récompensés respectivement d'un Prix de l'AAPC et du Prix de design urbain de Toronto. De plus en plus, le cadre et les stratégies du plan directeur servent de modèles pour d'autres systèmes de ravins, la Ville de Toronto développant une vaste stratégie à cet égard, la *Toronto Ravine Strategy*.

En 2014, Toronto a confié à DTAH le mandat de réaliser la première phase d'améliorations qu'on recommandait d'apporter au paysage. Plusieurs d'entre elles sont presque terminées. Déjà, le



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La vallée de la rivière Don suscite désormais de l'intérêt à un tout autre niveau...



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sentier polyvalent de l'avenue Bayview, de même que la passerelle pour piétons et cyclistes du chemin Pottery ont fait l'objet d'éloges : on se félicite de l'expansion du réseau multimodal de Toronto. Les autres travaux en cours comprennent l'amélioration des sentiers, la restauration des habitats, des escaliers et rampes d'accès pour les ponts qui traversent la vallée, des œuvres d'art public et une rénovation du passage ferroviaire inférieur.

UN NOUVEAU PARI AUDACIEUX

De nombreux Torontois comparent la vallée de la rivière Don à High Line Park à New York, non pas en raison de leurs caractéristiques physiques, mais parce ces deux espaces stimulent l'imagination du

Nos recommandations vont au-delà des berges pour embrasser les quartiers avoisinants...



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public et lui démontrent qu'un autre type de parc est possible. Pour nous inspirer, nous avons remonté le temps bien davantage, jusqu'aux travaux de Fredrick Law Olmsted, célèbre pour la conception de Central Park à New York et du parc du Mont-Royal à Montréal. Il y a près de 140 ans, le cabinet d'Olmsted a aussi conçu l'Emerald Necklace de Boston, un système de parcs incroyablement variés, reliés aux différents quartiers avoisinants par un vaste réseau de sentiers. Conçus à la fin du XIX^e siècle, les plans originaux de cet impressionnant collier de verdure invitaient les gens de Boston à apprécier leurs paysages d'une manière nettement différente. Aujourd'hui, Emerald Necklace représente près de la moitié de tout l'espace public de Boston et contribue grandement à l'image de la ville. La vallée de la rivière Don et le système de ravins de Toronto sont tout aussi prometteurs.

DES POSSIBILITÉS REMARQUABLES

Le plan directeur ayant été couronné de succès, la vallée de la rivière Don suscite désormais de l'intérêt à un tout autre niveau. En 2015, l'organisme sans but lucratif Evergreen (dont le siège se trouve à la fameuse briqueterie) a organisé une charrette avec des designers invités (voir le numéro d'été 2016 de LP). Du personnel de la Ville et des agences municipales, des étudiants, et d'éminents professionnels du Canada et des États-Unis ont exploré la création d'un nouveau type d'espace vert. Le plan directeur a servi de point de départ, mais au fil des jours, les intervenants ont poussé la réflexion, jusqu'à voir dans la vallée de la rivière Don un endroit unique au Canada. Ce fut le moment fort de la charrette : nous avons commencé à voir *un parc* dans ce rassemblement d'innombrables éléments et espaces. D'aucuns diront que d'avoir

recours à une appellation aussi banale représente changement de perspective tout simple, mais le processus est étonnamment puissant. Pour la première fois, la vallée de la rivière Don est devenue un endroit auquel tout un chacun peut s'identifier.

La prochaine étape dans l'évolution de la vallée laisse augurer un succès encore plus marqué. En octobre 2016, le maire de Toronto, John Tory, a officiellement annoncé le projet du Don River Valley Park, qui avait débuté en 2015 sous la forme d'une campagne de financement pluriannuelle publique et privée. Ce nouveau « super parc » représentera un vaste espace vert de 480 acres (195 hectares) au cœur de la ville, de la briqueterie Evergreen au sud jusqu'à l'embouchure du lac Ontario.

UN AVENIR RADIEUX

Cette nouvelle initiative est ancrée dans les thèmes et stratégies du plan directeur, mais elle aspire à élever à un autre niveau le statut de la vallée. En effet, l'éthique environnementale d'aujourd'hui, l'influence croissante des paysages sur notre culture, et l'épanouissement de l'imagination du public s'unissent pour ce qui promet d'être une époque fabuleuse pour la vallée de la rivière Don.

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6

5 DE NOUVEAUX ESCALIERS ET DE NOUVELLES RAMPES PERMETTENT D'ACCÉDER AUX TROIS PONTS QUI TRAVERSENT LA RIVIÈRE DON ET FACILITENT AINSI L'ACCÈS AU SENTIER. | 5 REALIGNED UNDERPASS BENEATH THE BELLVILLE RAIL CORRIDOR TO IMPROVE SAFETY AND ACCESS 6 NEW STAIRS AND RAMP FROM THREE BRIDGES THAT CROSS THE LOWER DON RIVER WILL PROVIDE GREATER ACCESS TO THE TRAIL.

PHOTOS 5,6 DTAH

ACTORS ON THE LANDSCAPE

For a true project to come to life...it is essential to mobilize the different territorial actors – the potential long term champions.

AT THE UNIVERSITY of Montreal, rural landscapes are the focus of a large body of research which has resulted not only in a book, but also in fascinating work on the gently rolling agricultural landscapes of the region of Maskoutains. In this section, three educators discuss their research and their perspectives for the future of regional planning and design.

LOUIS-PHILIPPE ROUSSELLE-BROSSEAU, acting as a practical training officer and research officer, collaborated with Gérald Domon and Julie Ruiz on the Maskoutain landscapes research project.

GÉRALD DOMON is a full professor and associate science director for the chair in landscape and environment at the Université de Montréal.

JULIE RUIZ acted as a researcher at the CPEUM and, together with Gérald Domon, Maryse Séguin and François Lestage, launched the pilot project "Maskoutain Landscapes: Revealing, Enhancing and Requalifying".

LOUIS-PHILIPPE ROUSSELLE-BROSSEAU

RURAL LANDSCAPES COLLECTIVE FORESIGHT

EN_ **THE LANDSCAPE CHANGES** rapidly; it is reordered visually and socially just as quickly. In this fast-moving context, integrated action on the large landscape becomes crucial.

A large landscape is not a simple object within our field of vision, but a setting comprising actors, their actions, the perceptions that influence those actions, and the external pressures (legal, economic) that shape them. Accordingly, action taken on a large landscape needs to be framed as the result of a territorial dynamic; this multilateral action is expressed through the project.

It is one thing to know a landscape, but it is quite another to elevate that landscape to the status of collective good and to plan it based on a shared vision. If we need a basis for a critique of current regional landscape practices, it is immediately apparent that many diagnostics and diagrams are produced each year without leading to territorial action – the kind of transformative action that we can call a project. All too often, we still associate action on large landscapes with coercion and regulation.

THE LANDSCAPE FORECAST: SHIFTING FROM KNOWLEDGE TO ACTION

For a true project to take shape and come to life, it is essential to mobilize the different territorial actors – the project's potential long-term champions. There can be many such people: decision makers, planners, concerned citizens, farmers, and so on. It is therefore up to the landscape architect, when in the position of initiating or executing the process, to build a bridge between the project and the stakeholders, helping the community take ownership of the project. Among all the available tools, the **landscape forecast** appears to be among the most promising. It entails analyzing trends in locally valued landscapes in order to develop a future image of them – a scenario. The different scenarios produced are debated in committee, and a consensus scenario emerges.

Thanks to its visual nature, a landscape forecast is easily accessible to the uninitiated, facilitating the work of the landscape architect. It can cover both everyday landscapes and iconic ones. It brings possible futures to the table



paysage actuel

The forecast ... does not aim to freeze the landscape in its present state. Instead, it highlights its dynamics.

for debate, opens a dialogue between stakeholders and designers, and can lead to the implementation of a vision shared by a community that can guide planning actions. It is, in essence, those acting on the landscape who take a position on the measures to be adopted, whether privately, collectively or legally, in order to shape the desired landscape over the long run.

The forecast is therefore a long-term task, because it incorporates the changing character of the landscape and the need, at different points in time, to update the project to ensure it remains consistent with the values, uses and perceptions of its time. It is therefore an exercise that needs to be restarted from time to time in order to keep the large regional landscape vital.

ARTICULATING THE VISION

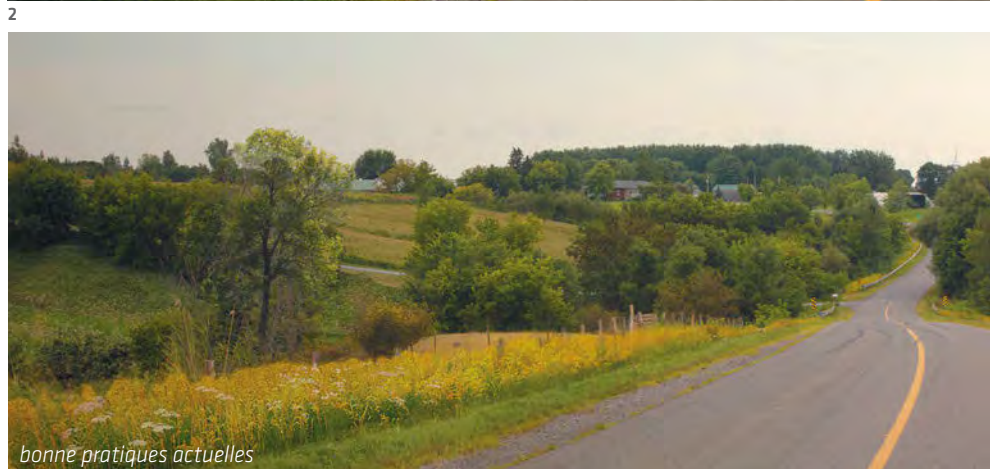
In essence, in order for there to be a landscape project, the landscape architect must support the affected community. That support should empower the community to promote the local adoption of both the overarching idea and the means to implement it over the long term. The landscape architect becomes a mediator who directs the collective development and articulation of the shared vision. The forecast becomes a tool of choice, because it helps a collective project emerge from public debate. The resulting project does not aim to freeze the landscape in its present state. Instead, it highlights its dynamics.

On a large scale and in a time of rapid change, the landscape architect as mediator becomes a highly valuable player.

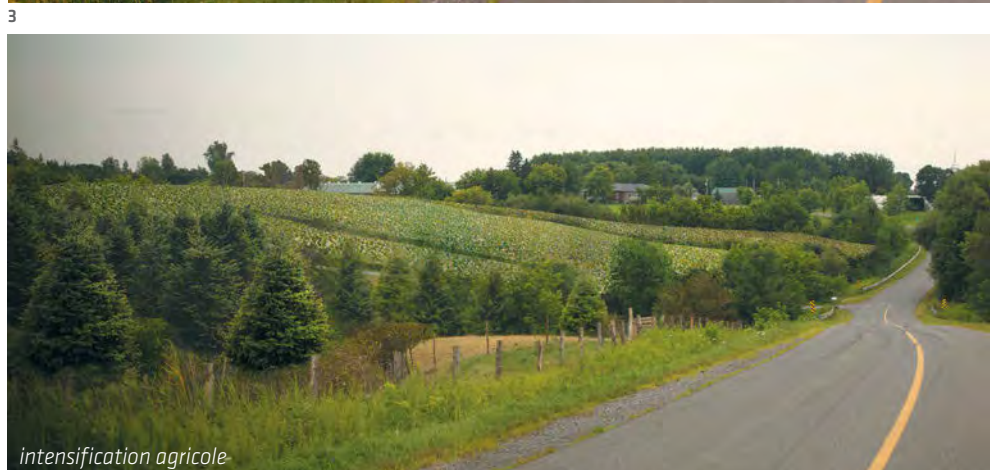
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scénario innovant pour développer l'élevage



bonne pratiques actuelles



intensification agricole

3 LANDSCAPE SCENARIOS: LANDSCAPE FORECAST EXERCISE IN THE MASKOUTAINS REGIONAL MUNICIPALITY (MRC) **1** CURRENT LANDSCAPE **2** LONG-TERM SCENARIO: INNOVATION THROUGH THE DEVELOPMENT OF RANCHING IN THE SMALL VALLEYS. **3** MEDIUM-TERM SCENARIO: DIFFERENTIATED MANAGEMENT OF ROADSIDES BY THE PROVINCIAL TRANSPORTATION DEPARTMENT. WILDFLOWERS ARE VISIBLE YEAR ROUND. **4** TREND SCENARIO: THE SMALL VALLEYS ARE CHARACTERIZED BY AGRICULTURAL INTENSIFICATION (CORN, SOY) | **3 SCÉNARIO PAYSAGER :** EXERCICE DE PROSPECTIVE PAYSAGÈRE DANS LA MRC DES MASKOUTAINS **1** PAYSAGE ACTUEL **2** SCÉNARIO À LONG TERME : INNOVATION EN FAVORISANT LE DÉVELOPPEMENT DES ACTIVITÉS D'ÉLEVAGE SUR LES VALLONS. **3** SCÉNARIO À MOYEN TERME : APPLICATION DES BONNES PRATIQUES. DANS CE CAS, IL S'AGIT DE LA GESTION DIFFÉRENCIÉE DES ABORDS ROUTIERS PAR LE MINISTÈRE DES TRANSPORTS. DES FLEURS SAUVAGES SONT VISIBLES TOUTE L'ANNÉE **4** SCÉNARIO DE TENDANCE : LES VALLONS SONT MARQUÉS PAR UNE INTENSIFICATION AGRICOLE LE LONG DU RANG (MAÏS, SOYA).

IMAGES LOUIS-PHILIPPE ROUSSELLE-BROSSEAU

GÉRALD DOMON + JULIE RUIZ

RURAL LANDSCAPES FROM SHARED KNOWLEDGE TO SHARED VISION

EN_

SINCE THE EARLY 2000s, a steadily increasing number of Quebec's regions and municipalities have been working on regional initiatives which make the landscape part of a political process. Consultation among stakeholders is a prerequisite to action. Yet, effective consultation is built upon a shared knowledge base and understanding of landscapes. Only with these essentials in place can collective projects transcend all stakeholders' preconceptions. To guide the development of knowledge bases and consultation processes pertaining to large landscapes, we have written *Paysages ruraux, méthodes d'état des lieux et de diagnostic*.

LESSONS FROM FOREIGN EXPERIENCE

In Europe, there are now well-established processes for developing an understanding of large landscapes, and identifying the issues that affect them. Under Article 6 of the European Landscape Convention, each country must identify distinct landscapes within its territory, assess their characteristics, analyse their dynamics and pressures affecting them, and monitor their transformation. England and France were among the first countries to commit to this approach, and it is also used in Catalonia, Wallonia, Slovakia, Latvia and other regions. In the United States and

Australia, the relevant institutions have systematically embraced the assessment of landscapes' visual qualities. The situation is similar in Quebec.

Through an analysis of the work done to date, we identified characteristics of large-landscape projects and a number of complementary analytical methods. Thereafter, we experimentally used these approaches with the landscapes of Quebec's Maskoutins regional municipality, seeking ways to adapt such methods for use across Quebec. To view the research paper in French: www.mecmaskoutains.qc.ca (see below)

A COMMUNITY OF ACTORS

Large landscape projects are implemented by a wide range of stakeholders, and culminate in a spatial transformation process that is guided by a shared vision for the future. The approaches used are therefore distinct from specific physical/spatial initiatives devised by experts, who are typically hired after a public call for tenders. Rather, they hinge on stakeholders' evaluation of the pressures threatening landscapes.

Most such initiatives begin with the analysis of the landscape's material constituents and its spatial organization – such as human geography, agricultural land division, the built environment,



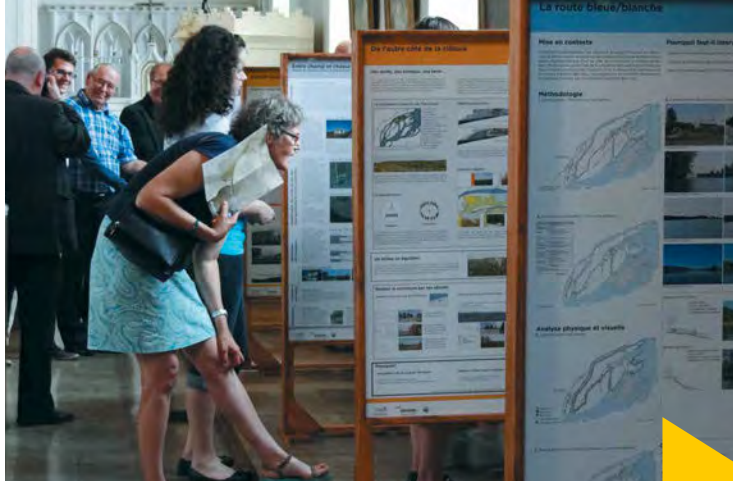
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hydrography, and so on. While the analysis rests on the definition of landscape units within which experts in landscapes, geography and culture identify a landscape's representative characteristics, the public may also contribute to the inventories. The process thus is grounded in the recognition that initiatives affecting large landscapes necessarily involve a wide variety of actors with complementary perspectives. And increasingly, these approaches seek to refresh the perspectives of elected officials, stakeholders, farmers, foresters, and others on the landscape.

The tools developed around the world for that purpose often demonstrate considerable originality: photographic analysis using Panoramio (a website for sharing geolocated photos), an online tool for residents to share the landscapes they value, participatory cartography sessions



1



3

for cataloguing those landscapes which are valued and those which are not, and so on.

PAST DYNAMICS, DIVERSE EXPERTISE

Since past dynamics in the landscape can reveal current pressures, the analysis includes an examination of transformations occurring over the last decade or two. Researchers explore the perspectives of those specialists and professionals who have worked directly on the territory with others who have been external to past processes, to raise a broad awareness of current issues.

It takes time to collate the knowledge and to assimilate it, and to decide what to act upon and why. Here again, different tools have been developed or can be adapted, such as SWOT analysis or issue identification using diagram-blocks.

For many European countries, there is a legal requirement to account for landscape issues in urban planning documents; this is not the case in Quebec. Thus, it is important that large-landscape approaches be grounded in active consultation which includes specialists in landscape, planning and cultural development.

These practices may not be familiar to landscape architects who work with projects at smaller scales. Through large-landscapes projects, the expert designer takes on an additional role: that of expert mediator. By training experts who are capable of working in both large scale landscapes and small, and who are skilled in enriching each other's work, we may meet one of the profession's major short-term challenges: training students to grasp the qualitative aspects of landscapes at every planning scale.

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Ruiz, J., G. Domon, C. Jambon, C. Paquin and L.-P. Rousselle-Brosseau (2012), *Connaître et comprendre les paysages d'aujourd'hui pour penser ceux de demain. Le diagnostic paysager de la MRC des Maskoutains (2e édition)*, Chaire en paysage et environnement de l'Université de Montréal and Université du Québec à Trois-Rivières, 70 p.
Online: <http://www.mrcmaskoutains.qc.ca>

GÉRALD DOMON

TRAINING EXPERTS IN AN EMERGING FIELD

EN_

THE NEW WAVE of community interest in large landscapes is presenting LA educators with immediate challenges. The first, undoubtedly, is the need to teach students the meaning of design at the regional scale. At the University of Montreal, we begin by teaching the arguments of authors such as Joan Nassauer for whom every action taken with the intention of shaping space is necessarily an act of design. At the regional scale, these "actions" can take many forms, including programs, policies or any initiative brought to bear on physical space.

Second, regional projects involving a wide range of actors must be built on a shared knowledge base. Preparation of essential data can be a highly creative exercise, but students come to understand the scope of the chore, given the large number of studies to be done, the large territory to cover and, frequently, the need to integrate new fields of knowledge (agriculture and forestry, for example.) Finally, working with a diverse group of people requires particularly strong communication and interpersonal skills; both are often overlooked in LA education.

At Montreal's school of urban planning and landscape architecture, we build capability through regional-space workshops conducted in close cooperation with local communities. Third-year undergraduates become familiar with landscape-related issues, with the different methods used to characterize landscapes, and with developing proposals that make sense to the community: their proposals must be presented to local stakeholders. In 2016, another workshop, part of the LA master's program, placed a strong emphasis on mastering certain software tools, on developing landscape-mediation skills, and even on leading collaborative workshops to define shared visions and key proposals. In 2017, we will launch a research master's in cities, territories and landscapes, in which students can work to develop new approaches to emerging issues, and acquire complementary skills in urban planning, a desire some have already expressed.

MASKOUTAINS REGIONAL MUNICIPALITY: ORGANIZATION OF HUMAN ELEMENTS, AGRICULTURAL LAND SUBDIVISION, FORESTS, TOPOGRAPHY AND THE HYDROLOGICAL SYSTEM. DIAGRAM BY L.-P. ROUSSELLE-BROSSEAU | PAYSAGES RURAUX: PRESSES DE L'UNIVERSITÉ DE MONTRÉAL, 2015
3 EXPOSITION DES TRAVAUX DE FINISSANTS (PHOTO J. RUIZ)

EXCERPTED FROM AAPQ's PAYSAGES, 2016, WITH THE KIND PERMISSION OF THE AUTHORS AND THE AAPQ



OÙ LA GESTION DE L'IMPACT VISUEL A FORCE DE LOI

ATTÉNUER L'IMPACT VISUEL À L'ÉCHELLE DU PAYSAGE

PETER WILLIAMS

FR_La réputation de la Colombie-Britannique à titre de destination internationale dépend de la beauté naturelle de ses paysages. Les montagnes, vues à partir d'un sentier de randonnée ou d'un corridor routier, comptent parmi ses paysages les plus visibles. Pourtant, les industries d'extraction des ressources dépendent souvent de ces mêmes espaces. Comment ces usages peuvent-ils continuer de coexister ?

POURQUOI GÉRER LES RESSOURCES VISUELLES ?

L'objectif du *Visual Resource Management* (VRM) est de protéger le cachet des paysages, tout en préservant le sentiment d'appartenance et, de façon plus générale, l'identité de la Colombie-Britannique.

Les résidents s'entichent des paysages pittoresques inaltérés. En cas d'exploitation forestière, le travail des architectures paysagistes peut aider à rassurer les citoyens : un paysage bien conçu envoie un message comme quoi les forêts britanno-colombiennes sont gérées de façon responsable. La qualité des paysages naturels est aussi vitale pour le secteur récréotouristique. Qui veut faire du rafting ou du camping sauvage dans un paysage qui a visiblement été altéré ?

COMMENT ÇA MARCHE ?

La Colombie-Britannique a défini des critères de qualité visuelle (*Visual Quality Objectives*) pour ses paysages les plus visibles et les plus pittoresques. La qualité visuelle est l'une des onze valeurs défendues par

la *Forest and Range Practices Act*, qui régit les opérations forestières sur les terres publiques. Le non-respect des critères établis peut mener à des enquêtes et à des poursuites auprès des titulaires de permis d'exploitation forestière.

À l'origine, la Colombie-Britannique a élaboré ce programme pour tenir compte des modifications apportées aux paysages de second plan et d'arrière-plan. Ces modifications sont mesurées par rapport à un relief topographique tridimensionnel, généralement défini par les crêtes, les canaux de drainage, les vallées, les rives et les lignes d'horizon. De plus en plus – à mesure qu'augmente l'exploitation des zones adjacentes aux corridors routiers –, on doit également tenir compte des vues de premier plan. La visibilité des altérations est



La visibilité des altérations est évaluée en perspective... que ce soit sur la terre ou sur l'eau...

l'infrastructure du site pour tirer profit de la topographie et de l'écran végétal; il pourrait aussi porter une attention particulière au tracé des pipelines, des corridors hydroélectriques et d'autres infrastructures.

Pour gérer l'esthétique des paysages forestiers, les AP doivent visualiser les résultats probables des alternatives proposées. Un logiciel basé sur un SIG permet d'obtenir des simulations extrêmement réalistes, qui s'avèrent désormais essentielles tant pour l'évaluation de l'impact visuel que pour la conception des paysages. Les modèles créés peuvent être testés et révisés selon les modifications proposées (en apportant par exemple un changement dans le plan de coupe ou dans l'emplacement des installations).

Lancé au début des années 80, le programme de *Visual Resource Management* sert désormais de modèle pour d'autres territoires au Canada et aux États-Unis. Un inventaire paysager détaillé, enrichi par maintes études de terrain, est maintenant offert en ligne dans le catalogue de données de la Colombie-Britannique. Les données spatiales incluent les critères de qualité visuelle, les indices de vulnérabilité visuelle et d'autres informations. On espère que les industries et promoteurs de tous les secteurs utiliseront ces données pour améliorer leurs processus de planification, même dans les cas où la protection des ressources visuelles n'est pas réglementée. La pérennité du caractère sauvage de la Colombie-Britannique est tributaire d'une gestion judicieuse et de la diligence des professionnels impliqués.

Pour des publications de recherche, du matériel de formation et plus de détails sur la gestion des ressources visuelles, visitez : <http://bit.ly/VisualResourceMgmt>

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LES ZONES VISUELLEMENT VULNÉRABLES COMPRENNENT LES PAYSAGES VISIBLES À PARTIR DES SENTIERS DE RANDONNÉE OU DES VOIES DE CIRCULATION PASSANTES.

IMAGE GRACIEUSEMENT DE BC FLNRO, RESOURCE PRACTICES BRANCH

évaluée selon la perspective que le public est le plus susceptible d'avoir, que ce soit sur la terre ou sur l'eau. Le règlement définit cinq catégories d'altérations : préservation, conservation, conservation partielle, modification et modification maximale. On évalue chaque site pour déterminer s'il répond aux critères spécifiques.

Certaines zones vulnérables font l'objet d'une attention particulière en matière de planification stratégique et opérationnelle. Plusieurs éléments aident à définir ces *Visually Sensitive Areas* : leur visibilité, le nombre de personnes susceptibles de les regarder, et le niveau de préoccupation des résidents, des touristes et des usagers récréatifs. Ces zones incluent des paysages qui sont visibles à partir des voies de circulation passantes.

Il n'y a pas que le secteur forestier qui peut avoir un impact durable ou permanent sur les paysages : pensons aussi aux oléoducs et gazoducs, aux mines, aux parcs éoliens et aux usines de gaz naturel liquéfié (GNL). Typiquement, l'évaluation de l'impact visuel de tels projets à grande échelle fait partie de leurs processus respectifs d'évaluation environnementale.

CONCEVOIR DES SOLUTIONS

Les architectes paysagistes travaillant avec des critères de qualité visuelle peuvent se concentrer sur l'évaluation de l'impact visuel, sur la planification du site ou sur les mesures d'atténuation. Par exemple, un AP pourrait proposer des formes curvilignes ou revoir les limites des zones de déforestation; il pourrait planifier

DOUGLAS OLSON, GUEST EDITOR | REDACTEUR INVITÉ

LE DESIGN À GRANDE ÉCHELLE VERS UN URBANISME ÉCOLOGIQUE ET UNE APPROCHE RÉGIONALE DU PAYSAGE

« Le design, surtout lorsqu'il est fait à grande échelle, est en définitive un acte politique. »

LE DESIGN, SURTOUT lorsqu'il est fait à grande échelle, est en définitive un acte politique. Qui conçoit nos paysages urbains et régionaux ? À quelle échelle ? Pour quelle raison ? Pour qui ? Par quels moyens ? Qui en profite et qui paie la note ? Comment décide-t-on des changements à apporter ? Comment les architectes paysagistes soutiennent-ils ces décisions et à quelle échelle ? Voilà les questions fondamentales soulevées par les pratiques qui émergent aujourd'hui au sein de notre profession.

Pour beaucoup de gens, le niveau de vie s'est considérablement amélioré au cours des cinquante dernières années. D'un autre côté, la productivité des sols chute, les ressources en eau sont menacées, la biodiversité diminue, et les paysages culturels sont homogénéisés. La FAO rapporte que 33 % de la surface émergée du globe a subi une dégradation (modérée ou grave, selon les cas), en raison de l'érosion, de la salinisation, du compactage, de la pollution chimique et de l'acidification des sols. La Banque mondiale estime que l'eau douce et la quantité de terre arable par personne ont chuté de 40 % au cours des cinq dernières décennies. Le Fonds mondial pour la nature avance des chiffres tout aussi déroutants : depuis les années 70, les populations de mammifères, d'oiseaux, de reptiles, d'amphibiens et de poissons auraient diminué de 52 %.

C'est là un rythme effarant et le temps commence à manquer. Nous devons

changer de trajectoire. Si des solutions sont requises à toutes les échelles, les enjeux sont plus importants dans les grands paysages régionaux. Nous, architectes paysagistes, devons nous impliquer plus que jamais à grande échelle, et nos universités doivent favoriser la formation de professionnels prêts à jouer un rôle de coordination dans la conception des grands paysages urbains et ruraux.

METTONS LES CHOSES AU CLAIR

Les paysages résultent de la somme des actions entreprises par une société au fil du temps et de la façon dont elle utilise ses espaces. Certes, les paysages reflètent le travail de designers et planificateurs, mais ils sont d'abord et avant tout le produit d'un ensemble de processus naturels et culturels interagissant au quotidien avec des gens ordinaires. Nous devons tenir compte de tous ces facteurs, d'autant plus que de nombreux citoyens sont bien au courant de l'urgence des défis auxquels notre planète fait face.

Au cours des vingt dernières années, le discours sur l'urbanisme paysager, l'urbanisme écologique et, plus récemment, les écologies dites projectives a mis en lumière la nécessité d'intégrer l'écologie au processus de design pour obtenir des paysages multifonctionnels et résilients. Ces idées ne datent pas d'hier. Mais la façon dont on conçoit et présente les priorités en urbanisme paysager relève souvent d'une rhétorique obtuse qui nous fait oublier l'importance des thèmes sous-jacents. Si l'urbaniste écologique veut avoir une influence significative – comme il se doit –, cette démarche doit être comprise, tant par ceux qui approuvent les changements apportés aux paysages que par ceux qui les réalisent.

LA TECHNOLOGIE FACILITE LE DESIGN À GRANDE ÉCHELLE

Les progrès technologiques et scientifiques ont rendu possible la conception de régions entières. Les améliorations apportées à la télédétection, au SIG, à la modélisation, à la visualisation et à l'analyse des paysages, de même que le recours à des indicateurs de performance, nous aident à comprendre les répercussions à toutes les échelles, à informer les décideurs et à sensibiliser le public. De nouvelles méthodes de GeoDesign – alliant étroitement analyse SIG, modélisation informatique et solutions de design et de planification – simplifient grandement nos processus de conception, tout en facilitant la transparence, la responsabilisation et l'implication des parties prenantes.

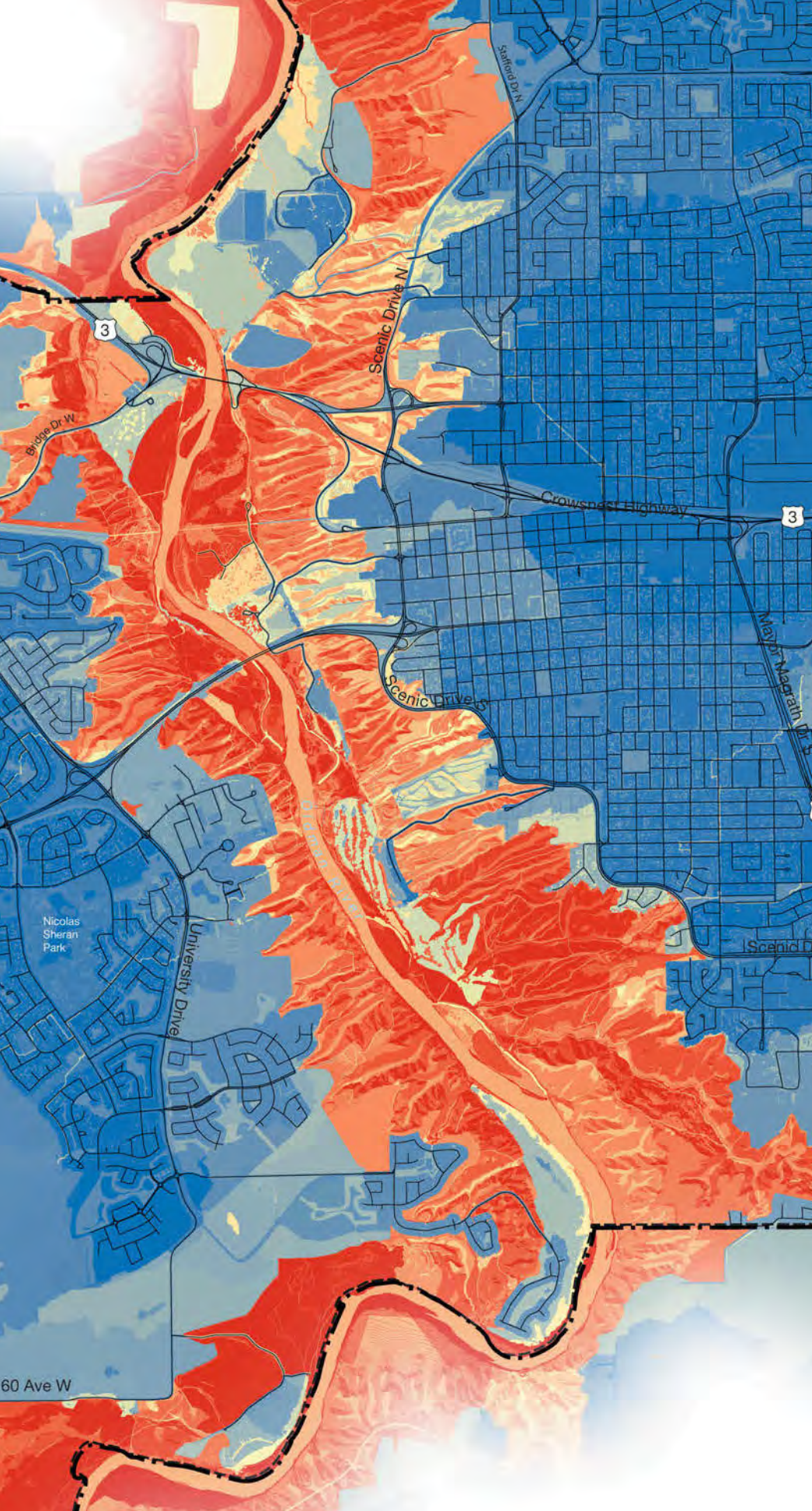
L'ÉCHELLE LA PLUS IMPORTANTE, C'EST CELLE DE LA RÉGION URBAINE

Si la plupart des changements à court terme affectent les zones plus restreintes, les changements à long terme touchent aux zones plus vastes. Je suis donc d'avis que l'échelle la plus importante, pour les designers d'aujourd'hui, est celle de la région urbaine. Peu d'architectes paysagistes en font leur pratique, mais l'effet de nos designs peut s'y faire ressentir pendant des siècles.

À grande échelle, nos méthodes de design doivent mettre l'accent sur la nature interdépendante des processus sociaux et écologiques. Nous devons aussi utiliser le paysage afin d'offrir une structure organisationnelle intégrée correspondant aux formes urbaines et régionales. Plans de croissance urbaine et d'aménagement du territoire, plans en matière de transports, stratégies ayant

L'URBANISME ÉCOLOGIQUE EN TOUTES LETTRES; UNE VALLÉE IMPORTANTE SUR LE PLAN ENVIRONNEMENTAL FAÇONNE LA VILLE DE LETHBRIDGE | URBANISM WRIT LARGE; AN ENVIRONMENTALLY SIGNIFICANT VALLEY SHAPES THE CITY IN LETHBRIDGE

IMAGES 02 PLANNING + DESIGN



trait à la conservation et aux espaces ouverts, programmes d'adaptation aux changements climatiques, gestion des eaux et des forêts... On doit unir tous ces éléments si l'on veut des régions urbaines résilientes et polyvalentes. Et qu'est-ce que tous ces éléments ont en commun ? Le paysage.

TOUT EST AFFAIRE DE CONTEXTE : LA HIÉRARCHIE DES ÉCHELLES

Certains urbanistes paysagistes affirment que l'architecture de paysage est une pure et simple construction urbaine. Néanmoins, notre capacité professionnelle à aborder l'intégration de la science, du design et de l'engagement sociétal au sein d'une gamme d'échelles allant du site à la région contredit cette thèse. Alors que l'urbanisme écologique favorise les liens essentiels entre les processus scientifiques et créatifs, cela doit être combiné à une approche régionale du paysage qui tient pleinement compte de l'interdépendance entre les schémas, les processus, les échelles et les différentes fonctions recherchées.

Tout a un contexte : le site relève de la communauté, la communauté du district, le district de la ville, la ville de la région. La théorie de la hiérarchie indique que même si les éléments individuels ont une certaine stabilité, chaque élément du paysage est lié à ceux d'une plus grande échelle, de même qu'à d'autres éléments proximaux au sein de son échelle et à d'autres éléments constitutifs d'une plus petite échelle. Souvent, à l'échelle régionale, le contexte n'est pas urbain, mais a plutôt trait aux écologies transformées – forêts aménagées, pâturages et paysages agraires. Cette hiérarchie d'échelles imbriquées, allant de la région au site, c'est tout le champ d'intervention des architectes de paysage.

O2, comme plusieurs autres firmes présentées dans ce numéro, travaille à toutes les échelles. Au sein de cette hiérarchie, nous cherchons d'abord à allier urbanisme écologique et approche régionale du paysage. Nous vous invitons à explorer quatre projets à différentes échelles dans le sud de l'Alberta, décrits et illustrés dans LP+.

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DOUGLAS OLSON, GUEST EDITOR | RÉDACTEUR INVITÉ

WORKING WITHIN A NESTED HIERARCHY OF SCALES TRAVAILLER AU SEIN D'UNE HIÉRARCHIE D'ÉCHELLES

UNIVERSITY OF CALGARY

THINKING BIG | LES CHOSES EN GRAND

EN_Landscape architects working across large landscapes bring an interdisciplinary design focus and an ability to understand the linkages across scales. The following examples illustrate a range of work undertaken by O2 Planning + Design in Southern Alberta. At all scales, we emphasize ecological urbanism and landscape regionalism.

FR_Les architectes paysagistes qui travaillent sur de vastes paysages mettent en lumière l'intérêt d'une approche interdisciplinaire du design et comprennent les liens entre les différentes échelles. Voici quatre exemples qui témoignent de l'ampleur du travail d'O2 Planning + Design dans le sud de l'Alberta. À toutes les échelles, nous privilégions l'urbanisme écologique et une approche régionale du paysage.



*projects

1. South Saskatchewan Regional Plan
2. Calgary Metropolitan Plan
3. Lethbridge River Valley Parks
4. East Bowmont Natural Environment Park

TRANSCENDING SCALES IS A DESIGN NECESSITY | LE DESIGNER DOIT VOIR AU-DELÀ DE L'ÉCHELLE À LAQUELLE IL TRAVAILLE

1. ALBERTA'S SOUTH SASKATCHEWAN REGIONAL PLAN

LE PLAN RÉGIONAL DE LA SASKATCHEWAN SUD

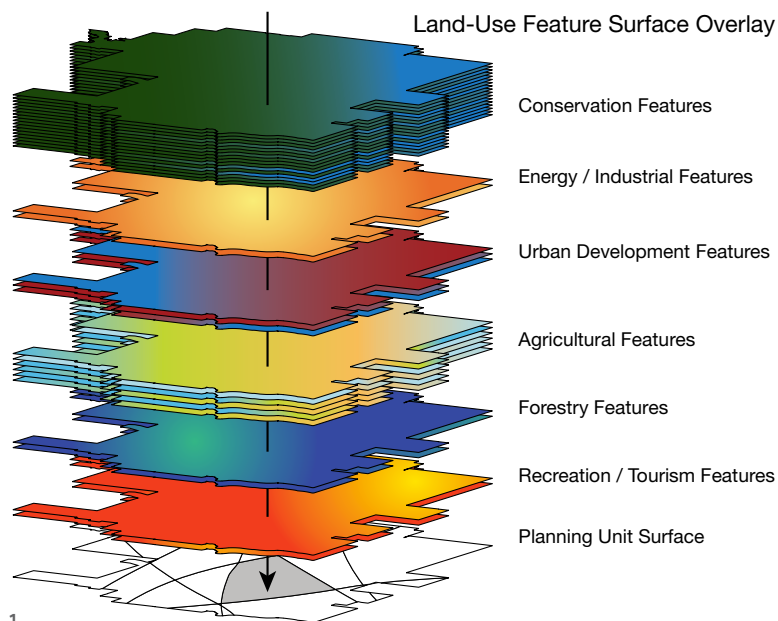
EN_ THE SOUTH SASKATCHEWAN REGIONAL PLAN is the second of seven ongoing regional plans under development for Alberta's Land-Use Framework. The 83,764 km² region, which encompasses the portion of the watershed of the South Saskatchewan River falling in Alberta, is roughly the size of Austria. This region contains many urban centres as well as thousands of rural households, farms and ranches. The land is highly valued for its oil and gas reserves, high quality agricultural soils and extensive rangelands, as well as its recreational and tourism landscapes. Its biodiversity is relatively high, and the region provides important habitats for several species at risk, but its limited water resources are in heavy demand.

The planning work for this vast region illustrates how new tools are changing the design process. O2 adopted a spatially explicit, multiple objective optimization model (MARXAN with Zones) to generate land-use solutions that met the cultural, economic and conservation objectives specified by the stakeholders, while at the same time, reducing the opportunity costs to other sectors. The complexity of the analysis and the resultant design scenarios would not have been possible without advanced modelling technology. The work supported trade-off analysis of the complex use and distribution of valued landscape features, and aided in the development of the regional plan in the face of widely varying stakeholder objectives.

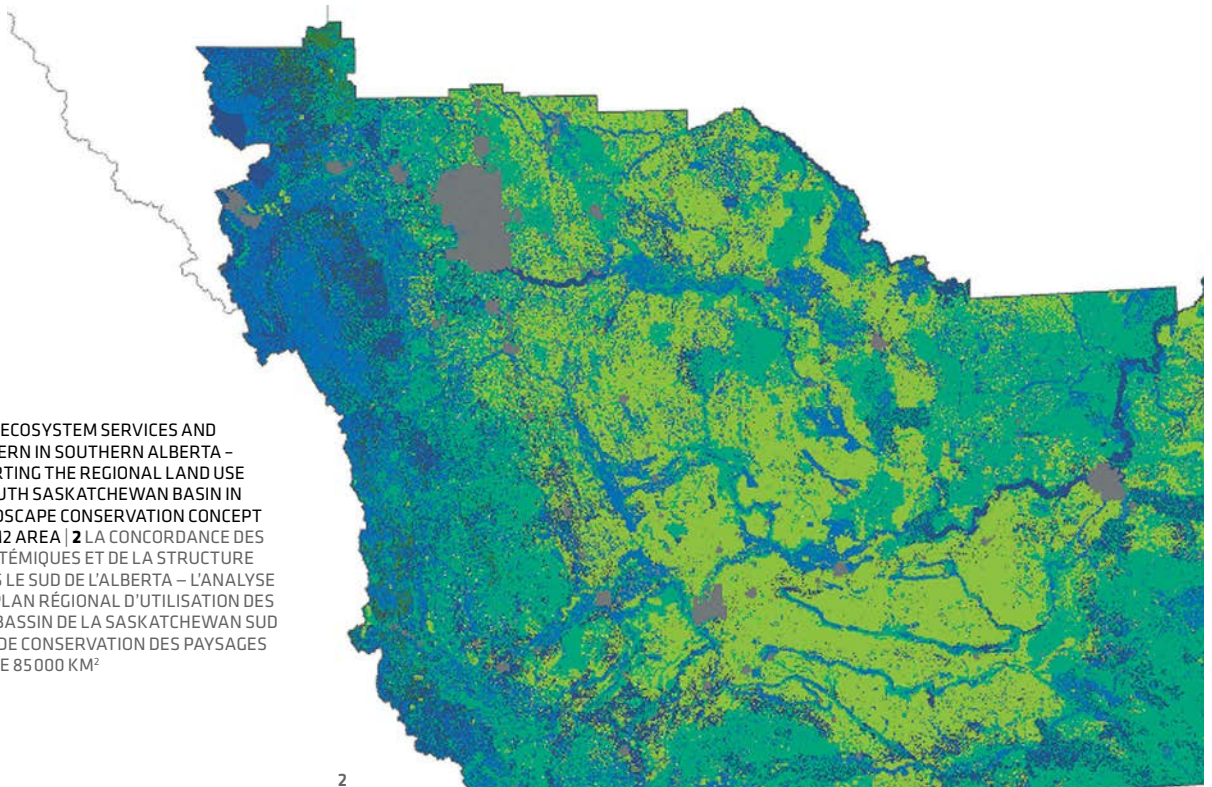
1 MULTIPLE VALUED LANDSCAPE ELEMENTS WERE CONSIDERED USING SPATIALLY EXPLICIT, MULTIPLE OBJECTIVE OPTIMIZATION MODELLING | 1 ON A EU RECOURS À UN MODÈLE D'OPTIMISATION MULTI-OBJECTIFS SPATIALEMENT EXPLICITE ET À UNE TECHNOLOGIE DE MODÉLISATION POUR TENIR COMPTE DE PLUSIEURS ÉLÉMENTS DE PAYSAGE IMPORTANTS

FR_ LE PLAN RÉGIONAL DE LA SASKATCHEWAN SUD est le deuxième des sept plans régionaux en cours selon l'*Alberta's Land-Use Framework*. Cette région de 83 764 km², qui englobe la portion albertaine du bassin versant de la rivière Saskatchewan Sud, est à peu près de la taille de l'Autriche. Elle comporte plusieurs centres urbains ainsi que des milliers de ménages ruraux, de fermes et de ranchs. Cette zone est précieuse en raison de ses réserves pétrolières et gazières, de ses sols agricoles de grande qualité, de ses vastes pâturages et de ses paysages récréatifs et touristiques. Sa biodiversité est relativement élevée et la région fournit des habitats importants pour plusieurs espèces en péril, mais ses ressources hydriques sont en forte demande.

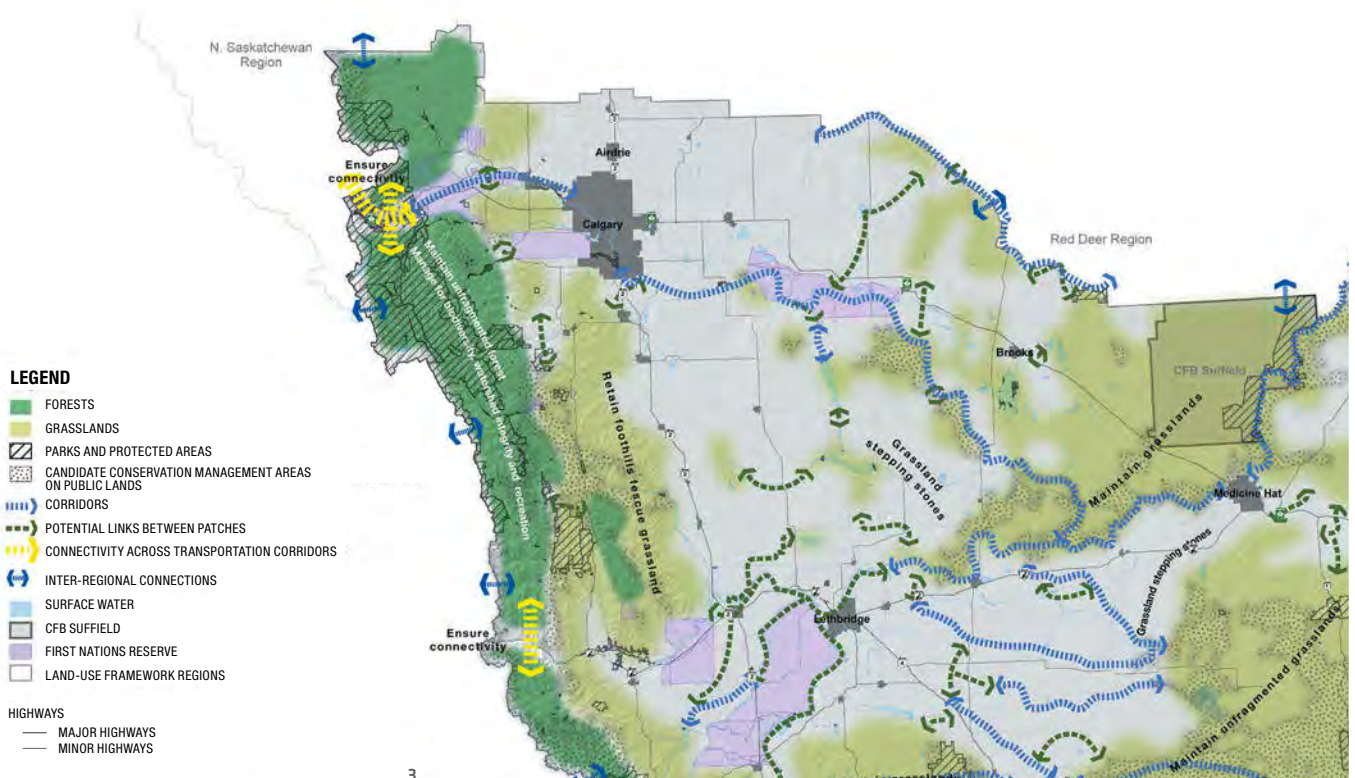
Les travaux de planification de cette vaste région illustrent comment de nouveaux outils modifient le processus de conception. O2 a adopté un modèle d'optimisation multi-objectifs spatialement explicite (MARXAN avec Zones) afin de générer des solutions d'utilisation des terres répondant aux objectifs des parties prenantes en matière de culture, d'économie et de conservation, tout en réduisant les coûts de renonciation pour d'autres secteurs. Il aurait été impossible d'atteindre un tel niveau de complexité – tant dans l'analyse que dans les scénarios de design qui ont émergé de la démarche – sans avoir eu recours à une technologie de modélisation avancée. L'utilisation et la répartition des caractéristiques paysagères étaient également complexes. Les travaux ont donc intégré une analyse de compromis, et facilité le développement d'un plan régional qui tient compte des objectifs très variés des différentes parties prenantes.



2 COINCIDENCE OF ECOSYSTEM SERVICES AND LANDSCAPE PATTERN IN SOUTHERN ALBERTA – ANALYSIS SUPPORTING THE REGIONAL LAND USE PLAN FOR THE SOUTH SASKATCHEWAN BASIN IN ALBERTA **3** A LANDSCAPE CONSERVATION CONCEPT FOR AN 85,000 KM² AREA | **2** LA CONCORDANCE DES SERVICES ÉCOSYSTÉMIQUES ET DE LA STRUCTURE DU PAYSAGE DANS LE SUD DE L'ALBERTA – L'ANALYSE EN FAVEUR D'UN PLAN RÉGIONAL D'UTILISATION DES TERRES POUR LE BASSIN DE LA SASKATCHEWAN SUD **3** UNE STRATÉGIE DE CONSERVATION DES PAYSAGES POUR UNE ZONE DE 85 000 KM²



2



3

2. CALGARY METROPOLITAN PLAN

LE PLAN MÉTROPOLITAIN DE CALGARY

EN THE CALGARY REGIONAL PARTNERSHIP (CRP) includes 15 municipalities and one First Nation. The region is growing: over the next 50 – 70 years, planners expect an additional 1.5 to 2 million people. The Calgary Metropolitan Plan encourages balanced growth that will fulfill the region's vision and aspirations— a healthy environment, a prosperous economy, enriched communities and sustainable infrastructure.

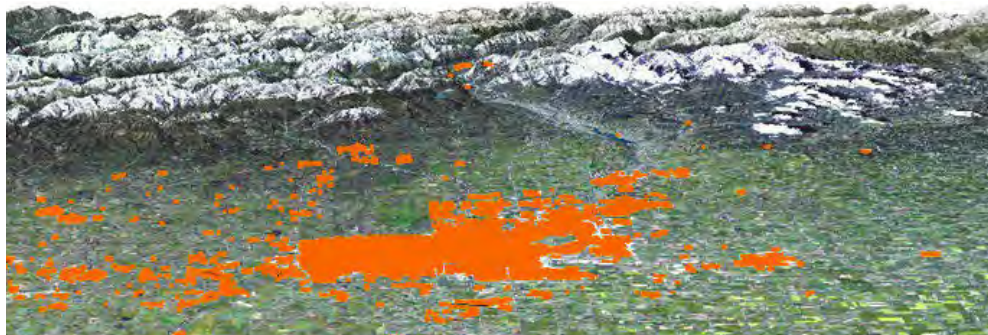
O2 facilitated a regional planning process that moved between spatial scales while considering different ecological, social and economic issues. Planners identified ecological infrastructure throughout the region, and used it as the basis for several highly visual and spatially explicit “learning scenarios”, which ultimately led to the recommendations within the plan. The landscape modelling methods produced more objective analysis, and informed decisions consistent with the regional vision.



1

1 THE CALGARY URBAN LANDSCAPE – CAMPUS, ESTABLISHED NEIGHBOURHOODS AND CENTRAL CORE **2** CALGARY REGIONAL CONTEXT **3** MAPPING EXISTING CONDITIONS **4** COMPOSITE ECOLOGICAL INFRASTRUCTURE; WHERE NOT TO BUILD **5** AGRICULTURE EAST OF CALGARY, SLATED FOR SUBURBAN DEVELOPMENT **6** AGRICULTURE IN A RICHLY BIODIVERSE LANDSCAPE WEST OF CALGARY **7** LANDSCAPE SUPPORTING RANCHING, ENERGY, FORESTRY, WATER PRODUCTION, RECREATION, BIODIVERSITY AND VISUAL PLEASURE.

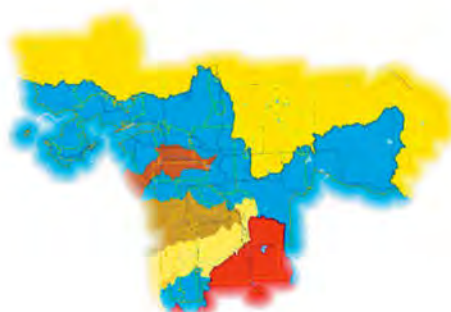
PHOTOS BY DOUG OLSON



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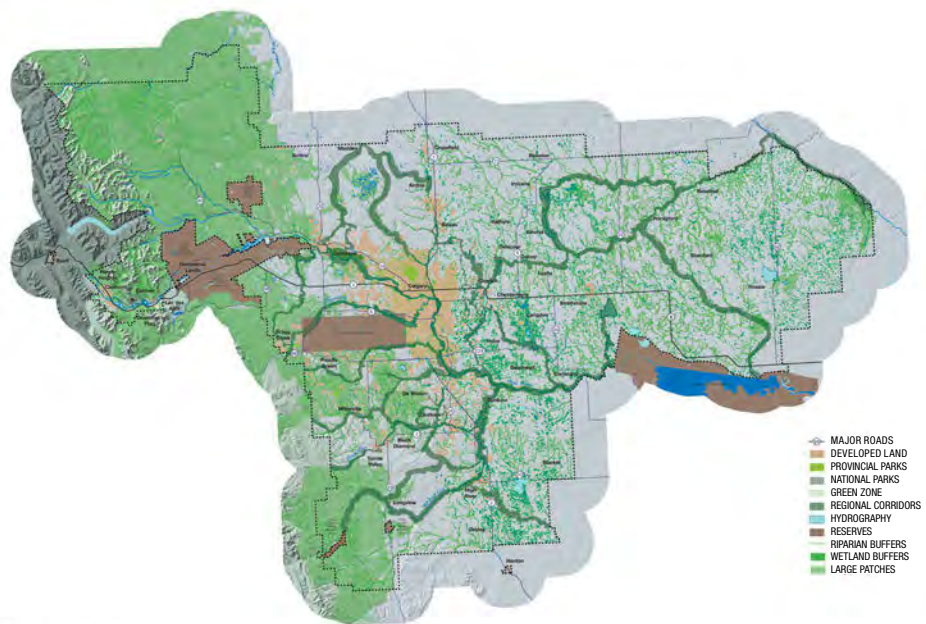


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FR_LE PARTENARIAT RÉGIONAL DE CALGARY rassemble quinze municipalités et une Première nation. La région croît : au cours des 50 à 70 prochaines années, les planificateurs s'attendent à ce qu'il y ait 1,5 à 2 millions de personnes supplémentaires. Le Plan métropolitain de Calgary vise une croissance équilibrée qui répondra à la vision et aux aspirations de la région : un environnement sain, une économie prospère, des collectivités enrichies et des infrastructures durables.

O2 a facilité un processus de planification régionale capable de passer d'une échelle spatiale à l'autre tout en tenant compte des différents enjeux sociaux, écologiques et économiques. Les planificateurs ont identifié les infrastructures écologiques de la région et en ont fait la base de plusieurs « scénarios d'apprentissage » hautement visuels et spatialement explicites. Ces scénarios ont finalement permis de formuler les recommandations intégrées au plan. En outre, les méthodes de modélisation du paysage ont rendu possibles davantage d'analyse objective et de prise de décisions éclairées, respectueuses de la vision de la région.



4

1 LE PAYSAGE URBAIN DE CALGARY - CAMPUS, QUARTIERS ÉTABLIS ET CENTRE. **2** CONTEXTE RÉGIONAL DE CALGARY. **3** CARTOGRAPHIE DES CONDITIONS ACTUELLES. **4** UNE INFRASTRUCTURE ÉCOLOGIQUE COMPOSITE; OÙ NE PAS CONSTRUIRE **5** L'AGRICULTURE À L'EST DE CALGARY, OÙ L'ON PRÉVOIT DÉVELOPPER DES BANLIEUES **6** L'AGRICULTURE AU SEIN D'UN PAYSAGE D'UNE GRANDE BIODIVERSITÉ, À L'OUEST DE CALGARY **7** UN PAYSAGE : POUR L'ÉLEVAGE, LA FORESTIERIE, LA PRODUCTION D'EAU ET D'ÉNERGIE, LES LOISIRS, LA BIODIVERSITÉ... ET LE PLAISIR DES YEUX.

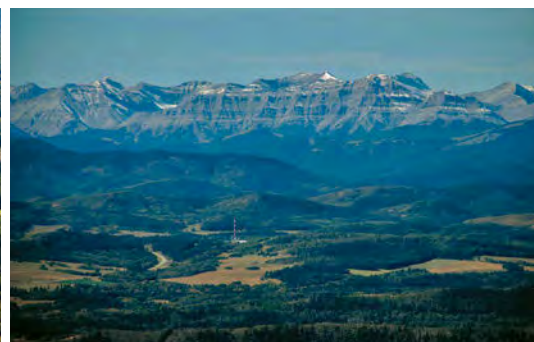
PHOTOS BY DOUG OLSON



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6



7

3. LETHBRIDGE RIVER VALLEY PARKS MASTER PLAN + SUSTAINABILITY PLAN

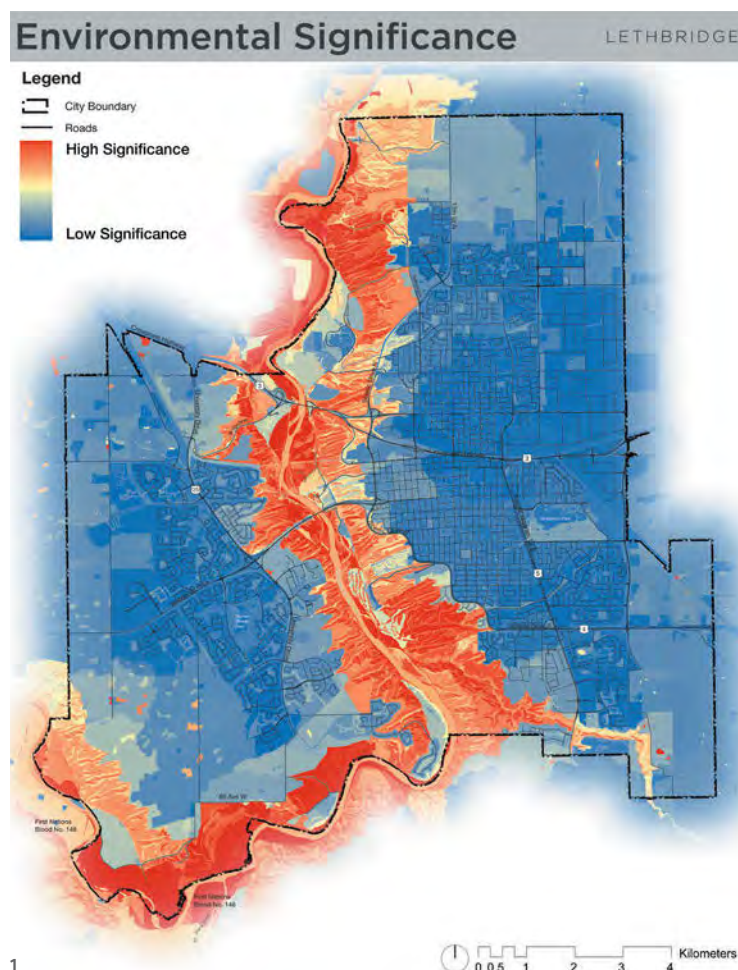
LE PLAN DE DURABILITÉ ET LE PLAN DIRECTEUR DES PARCS DE RIVER VALLEY À LETHBRIDGE

EN **THE LETHBRIDGE RIVER VALLEY** is a powerful example of a highly valued landscape structuring the form of the city. The Valley provides numerous recreational opportunities, and critical ecosystem services ranging from slope stabilization and augmenting the area's resilience to major flood events, to providing wildlife habitats that build biodiversity.

With development pressures both within the Valley and at its edges, however, the City of Lethbridge realized that it lacked adequate tools to safeguard the Valley's long-term integrity. The City needed to protect the functioning of the Valley's exceptional ecosystem, and preserve the park experience which it provides. The Master Plan sets a vision to guide how the Valley will be used, balancing preservation of the ecosystem with other important uses. The companion Sustainability Plan provides more detailed management strategies to ensure a highly functioning and ecologically healthy landscape.

FR **LA VALLÉE DE LETHBRIDGE** est un exemple éloquent de la façon dont un paysage très apprécié peut structurer la forme d'une ville. Cette zone ne regorge pas seulement de possibilités récréatives : des services écosystémiques essentiels, allant de la consolidation des talus à l'augmentation de la résistance aux inondations majeures, font que la vallée abrite de nombreux habitats fauniques qui favorisent la biodiversité.

Toutefois, des pressions liées au développement se font sentir, tant au cœur de la vallée qu'en sa périphérie, et la Ville de Lethbridge a réalisé qu'elle n'avait pas les outils nécessaires pour en préserver l'intégrité à long terme. La Ville devait protéger l'écosystème exceptionnel de la vallée, tout en préservant ses parcs et l'expérience qu'ils procurent. Le plan directeur sert de guide pour la façon d'utiliser la vallée et de trouver cet équilibre entre la préservation de l'écosystème et les autres usages importants qu'on veut faire de cet espace. Le plan de durabilité qui accompagne le plan directeur fournit davantage de détails sur les stratégies de gestion à mettre en place pour profiter d'un paysage sain et fonctionnel.



1 ECOLOGICAL URBANISM WRIT LARGE; AN ENVIRONMENTALLY SIGNIFICANT VALLEY SHAPES THE CITY IN LETHBRIDGE **2** LETHBRIDGE: THE OLDMAN RIVER VALLEY | **1** L'URBANISME ÉCOLOGIQUE EN TOUTES LETTRES; UNE VALLÉE IMPORTANTE SUR LE PLAN ENVIRONNEMENTAL FAÇONNE LA VILLE DE LETHBRIDGE **2** LA VALLÉE DE LA RIVIÈRE OLDMAN À LETHBRIDGE

IMAGES 1 02 PLANNING + DESIGN 2 JAIME VEDRES

If the ecological urbanist agenda is to have meaningful influence – as it should– it must be understood by those who both make and approve changes to landscapes. | Si l'urbaniste écologique veut avoir une influence significative – comme il se doit –, cette démarche doit être comprise, tant par ceux qui approuvent les changements apportés aux paysages que par ceux qui les réalisent.



4. EAST BOWMONT NATURAL ENVIRONMENT PARK LE PARC NATUREL

EN **THE RIPARIAN, FLOODPLAIN** and upland ecosystems of the Bow River Valley are some of the most important natural landscapes in Calgary's park system. The City's acquisition of a former gravel pit presented an outstanding opportunity to restore the ecological integrity of the area and a rare chance to protect the Bow River by incorporating stormwater management as a functional element of East Bowmont Park.

O2, collaborating with AECOM, Source 2 Source, and Watershed+, prepared the design for the park. Working with a team of civil engineers, landscape architects and artists, they developed an ecological design that incorporates stormwater treatment, by utilizing wetlands and filtration areas to clean the water. At the same time, the design creates a richly biodiverse passive recreation environment. It is now under construction. Notably, this is one of the first major collaborations on a development project between three of the City of Calgary's business units: Parks, Water Resources and Public Art.

FR **LES ÉCOSYSTÈMES DE** la zone riveraine, de la plaine inondable et des zones sèches de la vallée de la rivière Bow comptent parmi les paysages naturels les plus importants du réseau des parcs de Calgary. L'acquisition d'une ancienne gravière par la Ville a offert une chance exceptionnelle de restaurer l'intégrité écologique de la région et de protéger la rivière en intégrant la gestion des eaux pluviales aux éléments fonctionnels de l'East Bowmont Park.

O2, en collaboration avec AECOM, Source 2 Source et Watershed+, a préparé le design du parc. L'équipe, constituée notamment d'artistes, d'ingénieurs civils et d'architectes paysagistes, a conçu un design écologique qui incorpore des marécages pour le traitement des eaux pluviales de même que des surfaces de filtration. En même temps, ce design crée un environnement favorable aux loisirs passifs et doté d'une belle biodiversité. Les travaux sont en cours. Il s'agit d'une des premières collaborations importantes sur un projet de développement entre trois secteurs de Calgary : les Parcs, les Ressources en eau et l'Art public.



ECOLOGICAL STORMWATER WETLANDS IN RECLAIMED GRAVEL PIT AT BOWMONT PARK IN CALGARY | DES ZONES HUMIDES ÉCOLOGIQUES DANS UNE ANCIENNE GRAVIÈRE AU PARC BOWMONT À CALGARY



THE PONDS AND OVERLOOK AT BOWMONT PARK | LES ÉTANGS ET LE BELVÉDÈRE DU PARC BOWMONT



Landscape architects should focus their work at the size and scale of regions. That is “where real issues occur in the world” and where “society needs us the most”.

...Comments from Carl Steinitz

excerpted from an address to the Summit on
Landscape Architecture and the Future

Multiscale and multijurisdictional Geodesign: the Coastal Region of Georgia, USA

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Abstract. This project offers an innovative use of a collaborative geodesign framework, to address issues of multiscale, multi-jurisdictional planning, by evaluating the impacts from designs developed and evaluated at the county and regional level in real-time. Stakeholders organized in ten county teams and two regional, conducted simultaneous evaluation at the county and regional scale. Following second and third design iterations, individual county teams negotiated among themselves and with the two regional teams, evaluating issues of conservation and development in the coast of Georgia. Two dynamic models, one for ecological connectivity and the other for land use allocation were integrated and also incorporated with the most recent green infrastructure national datasets. A single negotiated regional plan was the result of this geodesign effort based on Steinitz'geodesing framework.

Keywords: geodesign, collaborative design, collaborative planning, geospatial impact models

1. INTRODUCTION

An experiment with Geodesign at multiple concurrent scales has been conducted in the coastal region of Georgia, USA, using Carl Steinitz' Geodesign framework [1,2] and the *geodesignhub* web-based software system (geodesignhub.com) Our group collaborated with the Coastal Regional Commission of Georgia, the body coordinating planning in the six coastal counties and four contiguous inland ones. The coast is lined with salt marshes and with barrier islands under varying levels of conservation protection. While the region is predominantly rural, it is enjoying strong economic development led by the Port of Savannah, manufacturing industries and a proposed Space Port, as well as increased tourism to the coastal beaches and cultural and historical richness of Savannah. Some counties have vigorous economies projected to grow with high rates of in-migration as well as natural growth, others face population decline. Planning tools such as development controls or incentives operate at the county and municipal level in the United States impeding coordinated region-wide planning for regional transportation, wildlife corridors, flood control or responses to climate change. Economic development, population growth and projected sea-level rise are three of the regional-scale forces affecting the future of coastal Georgia.

The aim of this study was for ten single-county teams working at the county scale and two regional teams, each looking at issues of conservation and development through a series of iterations and negotiations, to generate and compare alternative designs scenarios for the future of the coast of Georgia. The objective was to generate a region-wide negotiated and collaborative design within which the planning needs of ten counties could be satisfied (Figure 1).

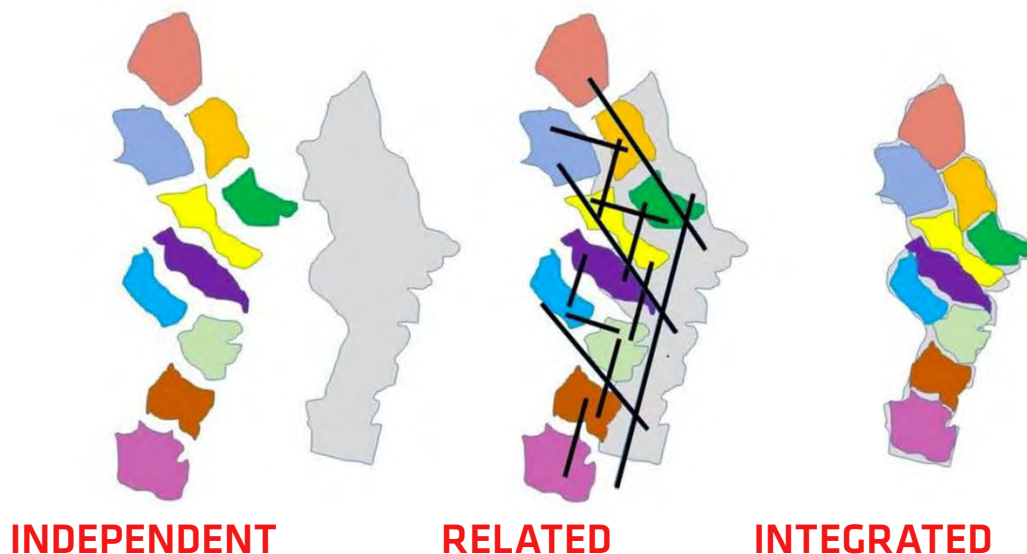


FIG. 1. DIAGRAM OF METHODOLOGICAL APPROACH SHOWING A) INDIVIDUAL COUNTIES, B) BETWEEN COUNTY NEGOTIATION, AND C) SINGLE NEGOTIATED REGIONAL DESIGN FOR THE COAST OF GEORGIA.

2. APPROACH AND METHODOLOGY

Steinitz's Geodesign Framework [1] establishes a workflow to facilitate collaborative design and decision-making processes for a site or a region and is most useful in the early stages of strategic planning. Early versions of this process were developed and documented by Steinitz et al. [3] in the Upper San Pedro Basin (Arizona). *Geodesignhub* implements the framework in a web-based setting deliberately focusing on design and evaluation within ten core resource data and evaluation sets, thus enabling the nimble creation of succinct design scenarios. Implementations of *geodesignhub* have been documented by Rivero et al. [2], Smith and Rivero [4], and Nyerges et al. [5]. This iteration of *geodesignhub* also incorporated two dynamic models, one for ecological connectivity and other for land use allocation, and a test of national green infrastructure datasets [6,7,8].

Scenarios for change were identified for the region and each county based on future population projections, economic projections, and other considerations such as population displacement by future sea level rise. Table 1 lists the 2050 design scenario elements.

TABLE 1. 2050 DESIGN SCENARIO

320,000 new people in the region.
95,000 people displaced by 3ft sea-level rise.
190,000 new housing units needed.
2,700 acres of new commercial development.
15,400 acres of new industrial development.
10,000 acres of new parks, recreation and conservation.
10,000 acres of new schools, municipal etc. development.
The Port of Savannah doubles in capacity, creating an additional 3,000 jobs, needing 2,300 housing units.
The Camden Space Port proceeds, creating 2,500 jobs needing 1,900 housing units.

For each of ten resource systems (conservation/green infrastructure; historic-cultural protection; forestry; agriculture; utilities; transportation; housing-lower density; housing-higher density; commercial and industrial land uses) an evaluation map was created, assigning values of 1-5 to those areas most appropriate for protection through those most appropriate for change. To accomplish the nesting of small local changes within larger ones occurring at the regional scale, individual policy or design proposals were represented at coarse scale enabling the planning exercise to focus on the reconciliation of the needs of ten counties with each other and with the plans of the over-arching regional authority. Within *geodesignhub* policies do not impose impacts, but projects do impose financial and ecological "costs" so that alternative proposals can be quickly evaluated.

3. RESULTS

County design teams delineated areas for design and planning policies, as well as projects for implementation while accessing both county-level and regional views. A regional level team prioritized ecological conservation, another prioritized economic development, toward region-wide plans incorporating all county plans.

Designs were made in three iterations. First, each team acted independently and in its own interests (Figure 2a). Second, teams negotiated with each other as needed. For example, a county unable to accommodate projected population increase with low density housing might “export” development to neighboring counties. Third, county teams negotiated with regional teams to achieve an agreed regional strategy (Figure 2b and 3). Final regional designs incorporating connectivity and land use strategies, adjusted for agricultural and forestry policies, and sea level rise projections, are shown in Figure 4.



Fig. 2a and 2b. Individual team design work and the negotiation among regional teams.



Fig. 3. Representatives from county teams negotiate with the regional team. Emerging map in the upper left corner.

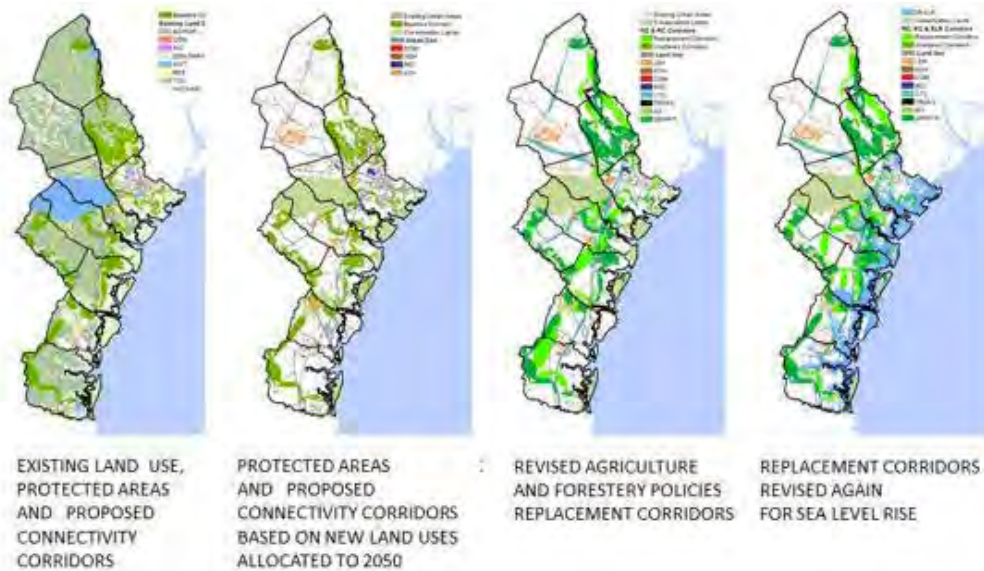


Fig. 4. Final maps of existing protected areas and proposed connectivity corridors.

4. DISCUSSIONS AND RECOMMENDATIONS

The negotiation among the systems teams, between neighboring county teams, and their final negotiations with the regional teams highlighted the value of geodesign approach in accelerating progress toward agreements for the future of the region. The implementation of this framework integrated design disciplines (including planning and landscape architecture), science, local knowledge of a place, and information technologies, into a single digital workflow that promoted stakeholder involvement and collaborative decision making. The value of this approach was stated by the Planning Director of the Coastal Regional Commission in her remarks: *“Geodesign fosters collaborative decision making. It helps practitioners see connections between geography and society. Participants from various backgrounds and points of view can run what-if scenarios and assess the consequences of those assumptions”*.

Results of this project, along with a previous pilot project implemented in Chatham County [2] have already been used to improve planning efforts by Carl Steinitz and Hrishikesh Ballal in other regions, including Washington State, Italy, and Belo Horizonte, Brazil. Additionally, as part of CRC plan implementation and education and outreach, the CRC plans to use this software as a planning tool for the region with the potential for subsequent workshops to follow each year.

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Keywords:
geodesign,
collaborative design
collaborative planning
geospatial impact models.



PETER JACOBS HONORÉ ET NOMMÉ

EN_

During its doctorate convocation, on June 3rd, the UNIVERSITÉ DE MONTRÉAL paid a tribute to 11 emeritus professors, including Peter Jacobs, who have retired and who, during their careers, have distinguished themselves with their teaching, their research, their participation in the development of the University as well as their leadership qualities and achievements.

When Peter Jacobs joined the faculty of the Faculty of Environmental Design, landscape architecture was a brand-new field at the Université de Montréal. Freshly graduated in architecture and landscape architecture from the Harvard Graduate School of Design, Peter Jacobs helped lay the foundations of that discipline while being the first director of the School of Landscape Architecture, founded in 1978. Peter Jacobs focused his research on issues related to landscape development and conservation on large landscapes. Because of his expertise, Peter Jacobs was invited to serve on several committees which assessed education programs in Canada, Israel, Colombia, France, China and Spain. Peter Jacobs also gave intensive courses and design studios in more than 50 universities on five continents.

President of the Kativik Environmental Quality Commission for 35 years and President Emeritus of the Board of Environmental Planning of the International Union for the Conservation of Nature, he was admitted to the Royal Canadian Academy of Arts in 2015. He was also involved, throughout his career, with professional, environmental and cultural organizations.

Peter is an emeritus professor the Landscape Urbanism School of the University of Montréal. He was appointed on November 22 by the City Council of Montreal as president of the Montreal Heritage Council. Congratulations, Peter!