

RIBBON of GREEN

Best Practice Review

September 2021



Prepared for
City of Edmonton

Prepared by
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Edmonton Alberta

Population:

972,223 (2019)

Metro Population:

1,321,426 (2016)

Population Per Square Kilometre:

1,433.8

Land Area In Square Kilometres:

684.4

This Best Practice Review will inform Edmonton's Ribbon of Green Project at its earliest stages through the review of best practices from around the globe. When searching for these cases, the project team asked the following questions:

- » How do comparable cities balance ecological and recreational uses in regionally significant park spaces?
- » What are the factors considered when planning in, and connecting between, natural areas and environmentally sensitive areas?
- » What are examples of innovative planning and design in environmentally sensitive areas?

River valley cities comparable to Edmonton were looked at, as well as cities that offer excellent examples of waterfront or riverfront planning, parks design, and landscape architecture.

The Best Practice Review is divided into three precedent sections, Waterfront + Riverfront Planning, Design, and Environmental Planning. Within these sections, a collection of best practice examples, including plans, concepts, reports, and physical places are highlighted. These examples each offer lessons that can positively contribute to the development of the Ribbon of Green Project.

RIVERFRONT + WATERFRONT PLANNING PRECEDENTS



THE RIPARIAN ACTION PROGRAM

Calgary Alberta | 2017

PROJECT RELEVANCE: *The Riparian Action Program recognizes the importance of green infrastructure to protect, restore and mimic nature's water cycle. The Program takes a systems approach to program design focused on three main areas and outcomes; land use planning, health restoration, and education and outreach.*

SUMMARY

The Riparian Action Program (RAP) is the City of Calgary's 10-year implementation plan for protecting, restoring, and raising awareness about Calgary's riparian areas.

- › The Riparian Action Program addresses multiple business priorities—including stormwater management, flood mitigation, biodiversity and climate change adaptation—while directly improving the quality of life for citizens and improving the resilience of our infrastructure and communities.
- › The Riparian Action Program aims to better co-ordinate and focus municipal and community efforts.
- › Responsible planning and management of riparian areas will benefit residents by providing cleaner water and improved drainage that supports recovery after climatic events, including flood and drought. As well, riparian areas improve public safety, minimize long-term costs to citizens, enhance the spatial quality of our river valleys and creek systems and protect critical environmental assets.

PROCESS

The City of Calgary undertook significant work in partnership with riparian experts to better understand and characterize Calgary's riparian areas, the data represents nearly 10 years of accumulated research and data focused on Calgary's riparian areas, including:

- › Recognizing riparian ecosystem services
- › Assessing the health of riparian areas
- › Mapping riparian areas within the city
- › Creating riparian management categories
- › Conducting citizen and stakeholder research

RESULTS

- › For each program area, the City of Calgary developed indicators, indicated actions to improve performance, answered who will benefit, listed partners who can help, and performance measurements.
- › The City of Calgary developed a framework of riparian management categories that can guide river engineering approaches and inform decisions about appropriate land uses within riparian areas.

Calgary Alberta

Population:

1,581,000 (2021)

Metro Population:

1,392,609 (2016)

Population Per Square Kilometre:

1,916.7

Land Area In Square Kilometres:

825.3



Sources:

<https://www.calgary.ca/uep/water/watersheds-and-rivers/riparian-areas.html>

BALTIMORE INNER HARBOUR 2.0

Baltimore Maryland | 2013

2014 National APA Planning Excellence Award for Implementation

PROJECT RELEVANCE: *Although a highly urban plan, Baltimore Inner Harbour 2.0's process and methodology can be looked to for adapting and modernizing parks and public spaces based on community needs, and their public engagement on sustainable actions provide a useful model.*

SUMMARY

- › Following the initial completion of the Inner Harbour public promenade in 1973, the Harbour was showing signs of wear with over 14 million visitors annually, and needed upgrades to mitigate sea level rise, and improve accessibility
- › The Plan proposed building off the institutional strengths of the National Aquarium and Maryland Science Center, by creating free amenities and attractions strategically located to extend the Inner Harbour District
- › A goal was set to create a swimmable and fishable harbour by 2020, which is achievable through public education/engagement, and promoting environmental stewardship
- › Living laboratory projects were implemented, including floating wetlands, rain gardens, and oyster wetland restoration
- › The Plan set out a clear business case showing the economic benefits of increased Inner Harbour tourism and business activity

PROCESS

- › The analysis involved an observation phase, and the assessment of a range of qualitative and quantitative aspects of the Inner Harbour
- › Analysis findings were used to review current development projects, their aesthetic character, open space quality, and the overall needs of the public realm
- › The project team developed a conceptual plan and planning principles which reflected the opportunities, philosophies, and ambitions that were identified during the community engagement, precedent study, and analysis

ENGAGEMENT

- › The project team sought input from Harbour stakeholders, downtown and neighbourhood residents, Baltimore youth, the business community, and the design community
- › The project team regularly met with these groups to gather qualitative information, develop design suggestions, and hear design critiques

RESULTS

- › Increased access points for kayaks and canoes
- › Implementation of projects that capture and treat stormwater runoff (e.g. Mr. Trash Wheel - see top photo)
- › Investment in public spaces, and the creation of new destinations and amenities, including interactive art, water features, pedestrian bridge connections, and parks

Baltimore Maryland

Population:

621,849 (2015)

Metro Population:

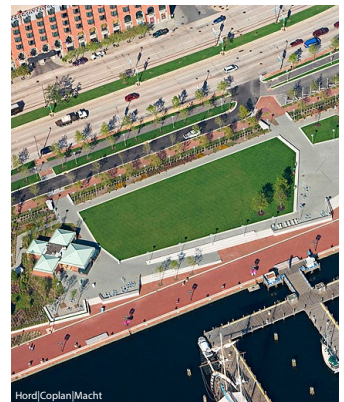
2,797,407 (2010)

Population Per Square Kilometre:

2,966.8

Land Area In Square Kilometres:

209.6



Sources:

<http://baltimorewaterfront.com/wp-content/uploads/2015/06/Inner-Harbor2-0-Master-Plan-compressed.pdf>

<https://www.waterfrontpartnership.org/healthy-harbor/healthy-harbor-ecotours/>

RIDEAU CANAL MULTI-USE CROSSING

Ottawa Ontario | 2013

2013 CIP Award for Planning Excellence: Mobility

PROJECT RELEVANCE: *The project team used innovative public engagement and research methods to determine the most appropriate location and design for this active transportation bridge, while also providing the data to support its funding by all three levels of government.*

SUMMARY

- › This multi-use bridge will provide an important active transportation connection, decreasing the reliance on private vehicles for commuting
- › The City's goal was to provide a functional connection, create a year round gathering place, minimize the visual impact of the bridge to adjacent properties, and introduce a contemporary landmark to a UNESCO World Heritage landscape
- › The design incorporates the use of sustainable materials in the decking and handrails, as well as LED lighting to enhance public safety and to illuminate the bridge's architectural details
- › The original capital cost estimate was \$17.5 million, and the 2016 updated cost is \$21 million

PROCESS

- › Analysis findings were used to review current development projects, aesthetic character, infrastructure needs, open space quality, and the overall needs for the public realm
- › An innovative review of community demographic profiles and existing travel behaviour enabled the project team to estimate the projected shift from auto trips to active trips, which helped inform the business case for investment in sustainable transportation infrastructure

ENGAGEMENT

- › A visioning and design charrette brought together technical experts, regulatory agencies, interest groups, and the local community which resulted in a shared vision and design objectives
- › An interactive blog fostered discussion, with real time public input
- › Public open houses were organized as drop-in style sessions with a formal presentation by the study team, followed by a facilitated question and answer period

RESULTS

- › The project team were able to select a bridge location and design with public support and client approval
- › The bridge addresses a critical gap in Ottawa's active transportation network
- › Construction will begin at the end of 2017, and the bridge will open in 2019

Ottawa Ontario

Population:

883,391 (2011)

Metro Population:

1,236,324 (2011)

Population Per Square Kilometre:

316.6

Land Area In Square Kilometres:

2,790.22



Sources:

<https://www.wsp.com/en-CA/news/2019/ca-wsp-earns-awards-at-the-2019-ottawa-urban-design-awards>

<https://www.cip-icu.ca/Awards-and-Scholarships/Awards-for-Planning-Excellence>

<https://www.cip-icu.ca/Files/Awards/Planning-Excellence/2013-33-Rideau-FULL-PLAN.aspx>

<http://ottawa.ctvnews.ca/new-footbridge-to-be-built-over-the-rideau-canal-1.3040138>

THE SPIRIT GARDEN

Thunder Bay Ontario | 2011

2012 CIP Award for Planning Excellence: Aboriginal Community Planning & Development

PROJECT RELEVANCE: *Thunder Bay's Spirit Garden is a successful example of a park and public space, that through a collaborative process with First Nations and Métis communities, increases the Indigenous presence in Thunder Bay's public realm. This unique park has become an icon of the city, and where Indigenous and non-Indigenous people can come together through contemporary Indigenous placemaking.*

SUMMARY

- › The design of the garden and park was inspired by the ecology of the northern shoreline site, and celebrates both the historical and contemporary artistic and cultural contributions of the local Indigenous communities
- › The 4.4 acre site is a significant component of Thunder Bay's revitalized downtown waterfront
- › Thunder Bay has a significant Indigenous population, yet prior to this project presence of this founding culture was greatly underrepresented in the city
- › The project's key objective was to provide a prominent space that would draw people to events, celebrating all of Thunder Bay's cultures, and provide a source of identity and pride for Thunder Bay's Indigenous residents
- › The garden features distinct environments: A Living Shoreline, the Gathering Circle, Fire Circle, Medicine Garden, and a significant public art component

PROCESS

- › The design is a collaboration between the design team, local Indigenous communities, wetland ecologists, and the Department of Fisheries
- › The consultant partnered with an local Ojibway architecture graduate to design the space
- › Construction of the Gathering Circle incorporated adaptations of traditional building methods

ENGAGEMENT

- › An integrated engagement approach drew together community representatives from the Fort William First Nation, communities of the Robinson Superior Treaty and Red Sky Métis in four design workshops

RESULTS

- › The garden opened to the public in December 2011
- › The space is actively used as gathering space for story telling, ceremonies, concerts and every day use
- › Lakehead University uses the garden as an outdoor classroom
- › The garden has received critical acclaim, and has become a tourist destination in the city

Thunder Bay Ontario

Population:

121,596 (2011)

Population Per Square Kilometre:

330.1

Land Area In Square Kilometres:

328.2



Brook McIlroy



Brook McIlroy



David Whittaker

Sources:

<https://www.cip-icu.ca/Files/Awards/Planning-Excellence/CIP2012-Awards-...Spirit-Garden-Submission.aspx>

<http://www.theglobeandmail.com/arts/art-and-architecture/thunder-bays-revitalized-waterfront-a-declaration-that-aboriginal-culture-matters/article7516689/>

<https://www.canadianarchitect.com/raic-journal-power-indigenous-placemaking/>

2012-2021 REGIONAL PARKS STRATEGIC PLAN

Capital Regional District - Victoria BC | 2009

2009 CIP Award for Planning Excellence: Recreation Planning

PROJECT RELEVANCE: *The Strategic Plan successfully identifies priorities that emerged from the public consultation and speaks to the fiscal challenges of building new parks and infrastructure while also maintaining existing facilities and services. The parallel Financial Program provided budget clarity to both strengthen existing recreation resources while incrementally adding new parks and trails. Additionally, contributions by local photographers make the plan to an attractive document.*

SUMMARY

- › The Strategic Plan provides a program of park development and acquisition over a 9-year period
- › A parallel financial program addresses funding sources to strengthen existing recreation resources while also adding new parks and trails as funding permits
- › With ongoing suburban sprawl, the Plan understands that parks are increasingly valued for their ecological importance, and that regional trails can be utilized as primary transportation routes
- › The Plan advocates for compatible recreational activities in regional parks and trails that help fill in gaps in the current system, connect communities, and address the needs of changing demographics

PROCESS

- › A Citizen Advisory Panel (CAP) was created to provide advice about the future direction of Regional Parks
- › The Plan is a result of the work completed by the CAP over a 18 month period, and includes listening to the community, interest groups, park agencies, as well as a review of technical information

ENGAGEMENT

- › At each stage of the plan, citizens, First Nations, governments, CRD Directors, and Regional Parks volunteers and staff were informed, consulted, and collaborated with

RESULTS

- › The organization is working towards the goal of conserving at least half of the region's land and water base
- › The two main goals of the Environmental Management Framework (EMF) are to maintain biological diversity and environmental integrity through a variety of processes, including acquiring land, monitoring, collaborating, sustainable facility development, and park operations, among others
- › The EMF will be achieved through an adaptive management model (see diagram to the right) that focuses on research, impact assessments, and public education using an iterative process

Capital Region District

Population:

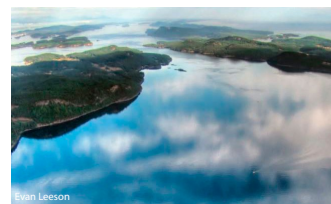
370,000 (2011)

Population Per Square Kilometre:

49.2

Land Area In Square Kilometres:

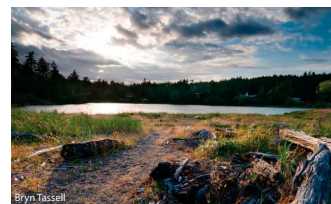
2,341.1



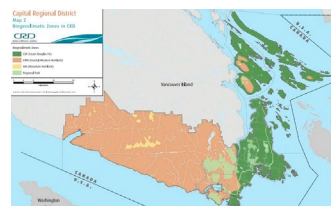
Evan Leeson



Paul Ripoux



Bryn Fassell



ADAPTIVE MANAGEMENT MODEL



Sources:

<https://www.crd.bc.ca/docs/default-source/parks-pdf/regional-parks-strategic-plan-2012-21.pdf?sfvrsn=0>

MARIBYRNONG RIVER VALLEY DESIGN GUIDELINES

Greater Melbourne Australia | 2010

PROJECT RELEVANCE: *By using river lengths as different character areas, these guidelines present a unique way of dividing and classifying sections of the study area. An Environmental Significance Overlay presents an effective planning tool to implement the goals of the Plan.*

SUMMARY

- › A collaborative effort amongst several local governments, the City of Melbourne, and the State; the Plan presents guidelines for river health, habitat protection, heritage, parks and recreation, and tourism
- › The Plan also includes design guidelines intended to influence building form along the river

PROCESS

- › The river was divided into management lengths based on community consultation, each with its own character, for example: Brimbank length – a natural river, Footscray length – an urban river, Port length – a working river
- › Preferred characteristics for each river length are discussed in detail, including what should be reinforced or conserved, what should be repaired, and what new characteristics should be created
- › The lengths provide a format for identifying the preferred character of the river and giving specificity to the design guidelines

ENGAGEMENT

- › Facilitated discussions at public workshops were focused on photo-based questions
- › Images were chosen to illustrate a range of locations and development impacts along the river, and also included examples from other rivers or waterways to help facilitate the discussion

RESULTS

- › Planning controls were amended, including overlaying the project area with an Environmental Significance Overlay (ESO), to ensure a broad range of actions that may threaten the river valley are now subject to permit approval
- › The ESO provides guidance over buildings, earthworks, removal of vegetation, landscaping and subdivision
- › The Plan created larger open space corridors including the creation of linked parkland corridors
- › The Plan also established the Maribyrnong River Valley Coordinating Committee which provides a mechanism for raising the profile of the valley as a whole, and can assign specific agencies or departments to each plan action

Greater Melbourne Australia

Population:

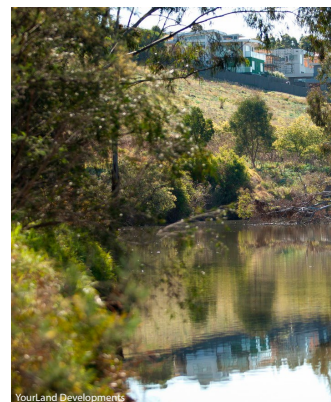
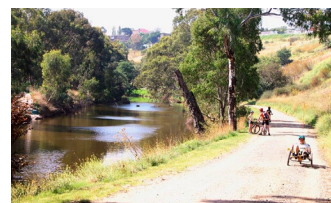
3,999,950 (2011)

Population Per Square Kilometre:

400.4

Land Area In Square Kilometres:

9,990.5



Sources:

https://www.planning.vic.gov.au/__data/assets/pdf_file/0033/484368/Maribyrnong_River_Valley_Design_Guidelines.pdf

https://www.planning.vic.gov.au/__data/assets/pdf_file/0030/97806/Maribyrnong-River-Valley-A-Shared-Vision-for-a-Vibrant-River.pdf

<https://www.planning.vic.gov.au/policy-and-strategy/waterways-planning>

THE PEOPLE'S PLAN FOR THE RIVERFRONT RIBBON

Toronto Ontario | 2015

PROJECT RELEVANCE: *Though not a municipally-led plan, the People's Plan is a successful example of a plan led by a community organization. The Plan integrates past plans, studies, and historical narratives into current planning. The proposed interventions are bold moves to inspire future change.*

SUMMARY

- › Launched in 2015 by Evergreen, the Plan is a vision for a 500-acre riverfront park on the Don River, and presents “audacious” design interventions at key locations
- › The Plan proposes interventions to restore the valley’s role as a natural system, and to highlight its rich history of institutions, recreation and industry; building stronger physical and social connections between the city, its people and the valley
- › The Plan is meant to inspire both public and political support

PROCESS

- › The process began with an analysis of the Lower Don River which included a review of its development, its ecological role within Toronto’s ravine system, its existing uses and conditions, and the demographics of its adjacent neighbourhoods
- › Past plans, reports, and recommendations were also consulted for themes
- › Themes were presented at a design charrette which led to a series of preliminary master plans featuring bold interventions
- › The interventions were then evaluated in the context of the background research
- › Four interventions were selected, and a fifth was added through Ryerson University's Ecological Design Lab

ENGAGEMENT

- › The Plan’s themes were explored through contextual presentation boards at a design charrette where landscape designers from across North America discussed creative solutions

RESULTS

- › Proposed interventions include a vegetated land bridge spanning the river, highway, and rail line; active transportation bridges; realignment of rail lines to be parallel with the Don Valley Parkway, converting streets to complete streets, and creating parks in areas when roadways and cloverleaves are removed
- › The City of Toronto announced in Oct 2016 plans to create of a 480 acre green space spanning from the Evergreen Brickworks site south to Lake Ontario

Toronto Ontario

Population:

2,615,060 (2011)

Metro Population:

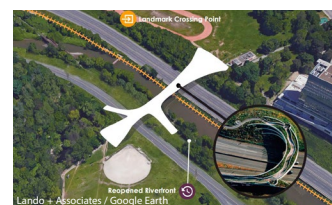
5,583,064 (2011)

Population Per Square Kilometre:

4,149.5

Land Area In Square Kilometres:

630.2



Sources:

<https://www.evergreen.ca/about/news-releases/don-river-valley-park-marks-first-mile-of-city-of-torontos-ravine-strategy/>

http://donrivervalleypark.ca/downloads/PeoplesPlan_Final_PUBLIC%202016.pdf

<http://donrivervalleypark.ca/>

GREEN CITY, CLEAN WATERS

Philadelphia Pennsylvania | 2015

2015 National APA Planning Excellence Award for Implementation

PROJECT RELEVANCE: *Through its implementation, Green City, Clean Waters actively engages with residents through an engaging website, homeowner grants, and rain barrel program. Various City departments and agencies have come together to implement green stormwater infrastructure through multiple capital projects including parks, playgrounds and complete streets. Utilizing spaces for stormwater management will save the City millions and maximize the capacity of their existing system.*

SUMMARY

- › Green City, Clean Waters (GCCW) is a plan to shift from traditional stormwater management to sustainable infrastructure that mimics the natural water cycle
- › With this plan, Philadelphia is first city in the U.S. to meet both state and federal water quality mandates through sustainable interventions
- › GCCW relies almost entirely on green stormwater infrastructure (GSI) systems to capture rainwater, uses it to irrigate trees and plants, and then recycles it back into the groundwater
- › The Plan provides a 25-year plan for GSI development to manage runoff from over 9,000 acres of impervious surface and to reduce sewage overflow pollution by 85%
- › The Plan includes engineering models to show how green infrastructure can address water quality issues, a cost saving analysis, and a social impact analysis detailing long-term socio-economic and environmental benefits

ENGAGEMENT

- › Residents of all socio-economic backgrounds helped identify green infrastructure opportunities and sites
- › The City provides homeowners with free rain barrels and homeowner grants for the development of rain gardens, downspout planters and de-paving projects
- › An accessible website was created with information, videos, stormwater management tools, an interactive projects map, and a “What’s In It For You” section

RESULTS

- › The City will save an estimated \$6.5 billion (US) in stormwater management costs
- › Various City departments, school districts, and the City Planning Commission work together to identify opportunities for stormwater management in capital projects such as transportation improvements, park renovations, green schoolyards, and new community green spaces
- › 113 projects have been completed, with 200 more in design or under construction
- › Over 3,000 rain barrels have been installed, and 150 grants have been awarded
- › The City provides technical and financial assistance to approximately 450 property owners to retrofit sites with green infrastructure, awarding over 14\$ million (US) in grants

Philadelphia Pennsylvania

Population:

1,567,442 (2015)

Metro Population:

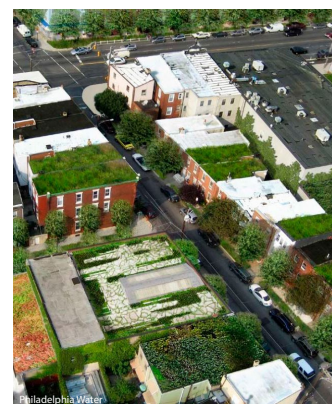
6,051,170 (2010)

Population Per Square Kilometre:

4,513.2

Land Area In Square Kilometres:

347.3



Sources:

<https://www.planning.org/awards/2015/greencity.htm>

<https://water.phila.gov/green-city/>

http://www.phillywatersheds.org/doc/GCCW_AmendedJune2011_LOWRES-web.pdf

LETHBRIDGE RIVER VALLEY PARKS MASTER PLAN

Lethbridge Alberta | 2016

PROJECT RELEVANCE: *The Lethbridge River Valley Parks Master Plan (RVPMP) is a good example of a parks plan that incorporates a specific land use classification system. The RVPMP also supports ongoing efforts by the City of Lethbridge to work closely with Blackfoot peoples to identify, protect, and promote Indigenous heritage and cultural sites.*

SUMMARY

- › The Lethbridge River Valley Parks Master Plan is a long-term strategy to maintain the natural, historical and cultural character of the Lethbridge River Valley, guide its use and development, and enhance conservation and recreation activities
- › The Plan provides an understanding of the current uses and future demand placed on the river valley; addresses gaps in accessibility, facilities, infrastructure, resource protection, and sustainable management practices

LAND USE TYPOLOGY CLASSIFICATION

- › The land use typology divides the river valley into different classes for management and stewardship purposes
- › The intent is to preserve areas of ecological and historical value, maintain and expand the appropriate recreational use of the land, and identify where public access is inappropriate. The classifications are:
 - Environmental Preservation – the highest level of protection to areas containing rare species, or landforms meriting special preservation
 - Natural Recreation – conserving the natural character and ecological integrity while ensuring sustainable recreational use
 - Intensive Recreation – areas where existing or potential intensive recreational facilities will cause limited environmental impacts such as campgrounds or sports fields
 - Commercial Recreation (private) – limited commercial recreation such as golf courses
 - Urban Services /Infrastructure – areas for essential public utilities
 - Interim Resource Extraction – accommodating resource extraction as an interim use
 - Heritage preservation – important historic and/or cultural features including both First Nation’s traditional land use and post settlement historic and cultural features

TRADITIONAL KNOWLEDGE AND USE ASSESSMENT

- › In 2016, a Traditional Knowledge and Use Assessment was commissioned by the City in partnership with Nations of the Blackfoot Confederacy to identify, understand, and protect sites of traditional use and occupancy that are significant to Blackfoot peoples
- › The RVPMP supports this activity through policies and guidelines that protect and promote Indigenous heritage and cultural sites
- › The findings of the Assessment will be incorporated into the implementation of the RVPMP

Lethbridge Alberta

Population:

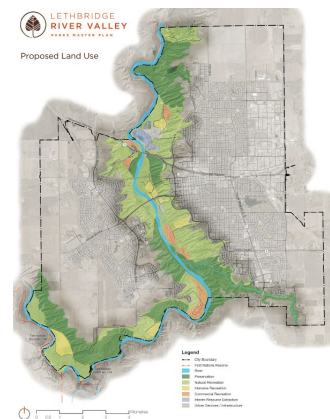
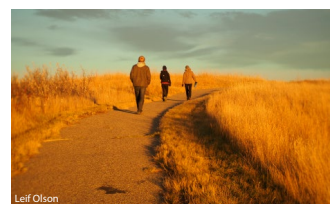
96,828 (2016)

Population Per Square Kilometre:

791.1

Land Area In Square Kilometres:

122.4



Sources:

<http://www.lethbridge.ca/living-here/Projects-Initiatives/Pages/River-Valley-Parks-Master-Plan.aspx>
<http://www.lethbridge.ca/Things-To-Do/Parks/Documents/DraftRiverValleyParksMasterPlan.pdf>

TORONTO RAVINE STRATEGY

Toronto Ontario | 2017

PROJECT RELEVANCE: *Toronto's Ravine Strategy successfully showcases a public project that clearly and effectively relays important information. The mapping products and discussion around placemaking are useful tools for presenting important planning concepts. Additionally, the combination of its clean layout, clear text, and interesting elements make this an effective public document to share project information and generate excitement.*

SUMMARY

- › The City of Toronto's ravine strategy guides ravine planning within the city, taking into account existing ravine related plans, regulations, and bylaws.
- › The strategy was created by Parks, Forestry and Recreation, City Planning, and Toronto Water in consultation with other City divisions, the Toronto and Region Conservation Authority (TRCA), the public, and other stakeholders.
- › Five guiding principles and twenty actions for Toronto's ravines were developed through engagement with the public, interest groups, staff, and key stakeholders.

DOCUMENT HIGHLIGHTS

- › The core guiding principles of the strategy are: Protect, Invest, Connect, Partner, and Celebrate. Strategic actions are nestled under each guiding principle.
- › The strategy recognizes a healthy, stable, resilient, and ecologically diverse natural environment as the foundation of the plan's success.
- › Actions to protect the ravines are focused on managing environmentally significant areas and requiring careful management, planning, and design within the ravine system to prioritize ecological health. The strategy also recommends expanding its network of partnerships with the TRCA for research, monitoring, and inventory.
- › The strategy recommends the development of a Toronto Parks & Trails Wayfinding Strategy to increase accessibility throughout the ravine system, with a focus on health, recreation, and cultural interpretation.
- › There is also a recommendation to form an Interdivisional Steering Committee on Ravines to serve as a coordinating body for the implementation of the Ravine Strategy. The Committee, which is to be co-chaired by City managers and directors, would be made up of an Ecosystem Services Working Group, a Capital and Planning Coordination Working Group, and a Partnerships, Outreach & Education Working Group.
- › A Criteria Framework was developed to help with investment decision-making. A hierarchy of criteria was developed. Criteria include:
 - › Ecology & Landform: Level of habitat quality and sensitivity
 - › Infrastructure: Rail, hydro, roads, trails, water, sewer
 - › Intensification & Growth: Major planned projects, growth centres, population density
 - › Parks & Greenspace: Spaces and facilities for human use
 - › Experience & Quality: Stewardship, art, education, interpretation
 - › Interface: Access, wayfinding, park uses

Toronto Ontario

Population:

2,615,060 (2011)

Metro Population:

5,583,064 (2011)

Population Per Square Kilometre:

4,149.5

Land Area In Square Kilometres:

630.2



Sources:

<https://www.toronto.ca/wp-content/uploads/2017/10/9183-TorontoRavineStrategy.pdf>

RIVERFIRST: THE MINNEAPOLIS UPPER RIVERFRONT MASTER PLAN

Minneapolis Minnesota | 2012

PROJECT RELEVANCE: *The RiverFIRST Vision provides a clear focus and planning direction for the Minneapolis – St. Paul Waterfront anchored in comprehensive research and analysis, design inquiry, community outreach and consensus building. Like the Ribbon of Green, this project will balance ecological integrity with recreational programming for all seasons.*

SUMMARY

- › RiverFIRST provides a 20-year vision for riverfront parks along the Mississippi River
- › The Plan is a result of an inter-agency partnership between the Minneapolis Park and Recreation Board, the City of Minneapolis, and the Minneapolis Parks Foundation
- › Objectives include realizing seven projects within 5 years of adoption, laying the foundation for visionary projects and ensuring inter-agency coordination

PROCESS

- › Defined guiding and design principles include urban ecology, mobility, green networks, water, emergent/meadow areas and riparian/upland areas
- › Established two types of projects: Priority Projects to be implemented within 5 years and Visionary projects to be developed between 5 and 20 years
- › Provided high level concepts for each of the priority projects with illustrative schematics and renderings
- › Created a detailed implementation guide

ENGAGEMENT

- › Employed tactics such as youth ambassadors, community meetings, a survey, steering committee, technical committee and advisory committee
- › Multiple communications tactics were employed such as Twitter, Facebook, traditional media and a project newsletter
- › Comments and letters of support were attached to the final document

RESULTS

- › The priority projects are underway and the Minneapolis Park and Recreation board are seeking development partners

Minneapolis Minnesota

Population:

382,578 (2015)

Metro Population:

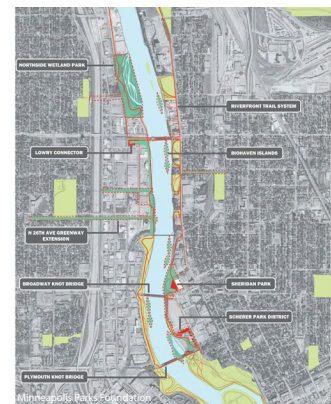
3,524,583 (2010)

Population Per Square Kilometre:

2,528.6

Land Area In Square Kilometres:

151.3



Sources:

<http://www.slideshare.net/MplsRiverfrontDesign/riverfirst-vision-april-2012>

WATERFRONT SEATTLE FRAMEWORK

Seattle Washington | 2012

PROJECT RELEVANCE: *Though this project focuses on an urban, ocean waterfront, the process and document structure have relevance to the Ribbon of Green project, most notably through an emphasis on public outreach, understanding the waterfront's place within a larger context, and breaking down the waterfront into its sub areas with different focuses.*

SUMMARY

- › The Waterfront Framework capitalizes on the removal of the Alaskan Way Viaduct and the replacement of the Elliot Bay Seawall
- › The framework covers an area from Pioneer Square to Belltown and includes 20 acres of public space
- › The project emphasizes the connections between the waterfront and neighbourhoods to serve all modes of travel

PROCESS

- › Guiding principles were established including 'Create a Waterfront for all', 'Put the shoreline and innovative sustainable design at the forefront', 'Reconnect the city to its Waterfront' among others
- › Conceptualized the waterfront at three scales – City, Centre City, and Waterfront
- › Reviewed the waterfront's history and contribution to the city
- › Studied and planned sub areas within the waterfront
- › Presented a variety of design solutions and visions for different waterfront components
- › To supplement the Framework Plan, a Strategic Plan and Design summary were released to provide a detailed description of implementation and design

ENGAGEMENT

- › A variety of communications tactics were used to generate interest, including placing project symbols and yellow chairs at strategic locations, temporary art installations, a kids and family photo booth and an information kiosk along with more traditional communications tactics such as social media, a website and partnerships with approximately 60 community organizations
- › For engagement, the project team hosted four large scale public meetings, five workshop-style community forums, over 80 briefings and community events and online commenting

RESULTS

- › Multiple projects are in various stages of detailed design and construction
- › The seawall is under construction
- › The Waterfront Seattle team continues to develop monthly reports of their progress to City Council and hosts ongoing public engagement and events along the waterfront to keep the public informed on the project

Seattle Washington

Population:

608,660 (2015)

Metro Population:

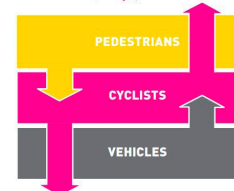
3,059,392 (2010)

Population Per Square Kilometre:

1,649

Land Area In Square Kilometres:

369.1



Sources:

https://waterfrontseattle.blob.core.windows.net/media/Default/pdf/framework_plan_full.pdf

THE RIVER PLAN

Portland Oregon | Ongoing

PROJECT RELEVANCE: *The River Plan is a comprehensive, multi-objective plan for the land along the Willamette River. It is similar to the Ribbon of Green in that it is an update to an older plan, the 1987 Willamette Greenway Plan, greenway zoning code, and greenway design guidelines.*

SUMMARY

- › The River Plan will be completed over three phases, with each phase focused on a different reach of the Willamette River: North Reach, Central Reach and South Reach
 - › The North Reach is Portland's working harbour
 - › The Central Reach is highly urban in nature, with the waterfront serving as the city's main civic space
 - › The South Reach has unique fish and wildlife habitat, parks and trails and is easily reached from established neighbourhoods

PROCESS

- › In 2014, City Council adopted the updated information about land uses, ownership, natural resources, recreation and historic and cultural resources within the Willamette River Greenway.
- › In August 2020, a document containing zoning code and map amendments for the Central Reach of the Willamette River and Trails system was released as part of the CentralCity 2035 plan.
- › River Overlay zones were developed to promote the protection, conservation, restoration, enhancement, and maintenance of the economic, natural, scenic, and recreational qualities of lands along the Central Reach. River Overlay zones implement the land use pattern identified in the Central City 2035 Plan (2017).
- › There are two River Overlay zones for the Central Reach: River General (uses consistent with the base zoning, allowing for public use and enjoyment of the riverfront), and River Environmental (for the protection, conservation, and enhancement of important natural resources while allowing environmentally sensitive development).

ENGAGEMENT

- › Presentations and Workshops about: Healthy Rivers, a Robust River Economy, and Vibrant Waterfront Districts
- › Working Groups
- › Willamette River Symposia

Portland Oregon

Population:

632,309 (2015)

Metro Population:

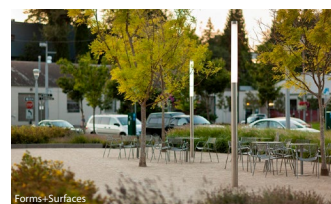
2,389,228 (2010)

Population Per Square Kilometre:

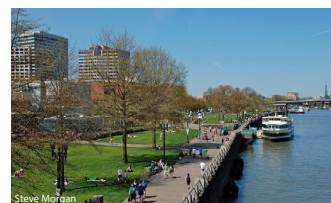
1,829.6

Land Area In Square Kilometres:

345.6



Forms+Surfaces



Steve Morgan



The City of Portland



The City of Portland

Sources:

<https://www.portlandoregon.gov/bps/42540>

DOWNTOWN COLUMBUS RIVERFRONT

Columbus Ohio | 1998

2016 National APA Planning Excellence Award for Implementation

PROJECT RELEVANCE: *The Columbus Riverfront project is a successful example of using the redevelopment of riverfront parks as a catalyst for the revitalization of adjacent neighbourhoods through public-private partnerships. Reclaiming former degraded and formally unusable land has created additional public spaces while also positively contributing to the health of the aquatic environment.*

SUMMARY

- › Spearheaded the restoration of the Scioto River through Downtown Columbus and the redevelopment of surrounding parks and public spaces
- › Improved public access to the riverfront
- › Spurred community reinvestment and the revitalization of adjacent neighbourhoods
- › Led to the creation of 5 new downtown parks and the restoration of 179 acres of the riverfront ecosystem, including a 120-acre bird sanctuary on a brownfield site
- › Removed two dams to create a navigable recreation, river corridor with the added benefit of restoring 179 acres of the riverfront ecosystem

PROCESS

- › The 1998 Riverfront Vision Plan established the goals of creating a connected, active, and healthy river system
- › The City created the Columbus Downtown Development Corporation to implement projects and guide improvements through public-private partnerships
- › The Plan was followed by the Handbook for Private Development and Public Improvements in the Riverfront Corridor (2001) that provided design and development guidelines for the private sector

ENGAGEMENT

- › An open planning process encouraged broad public support and helped increase the speed of implementation
- › The restoration of the Scioto River, the most popular idea to emerge from that planning process, received wide public and private support enabling inter-agency and multi-governmental partnerships to be formed, simplifying implementation

RESULTS

- › The downtown residential population has grown 108% since 2002
- › The City, the Columbus Downtown Development Corporation, and the private sector have worked together to facilitate investments totaling \$127 million (US) in 179 acres of new and renovated parkland
- › The area now attracts millions of visitors annually, triggering \$1.4 billion (US) in additional private investment in surrounding neighbourhoods

Columbus Ohio

Population:

850,106 (2015)

Metro Population:

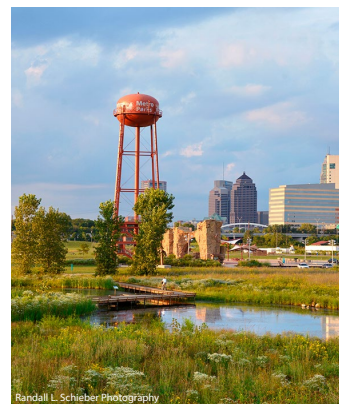
2,021,632 (2010)

Population Per Square Kilometre:

1,511.3

Land Area In Square Kilometres:

562.5



Sources:

<https://planning.org/awards/2016/columbusriverfront.htm>
https://issuu.com/mksk/docs/1998-2020_downtowncolumbusriverfronttransformation
https://www.columbus.gov/uploadedFiles/Columbus/Departments/Development/Planning_Division/Document_Library/Library_Documents/PDFs/Riverfront%20Vision%20Plan.pdf

DETROIT RIVERFRONT CONSERVANCY

Detroit Michigan | 2003

2014 National APA Planning Excellence Award for Implementation

PROJECT RELEVANCE: *The Detroit RiverFront Conservancy is an example of an alternative governance structure that has been able to quickly and effectively implement projects and programming to revitalize Detroit's riverfront. For example, the ability to effectively fund-raise has enabled significant corporate and private donations.*

SUMMARY

- › The non-profit Detroit RiverFront Conservancy was created in 2003 through a public-private partnership
- › The Conservancy was established to encourage economic development and enable public access to the riverfront
- › Initially launched by the City, the Kresge Foundation, and General Motors, public-private partnerships have been integral to the Conservancy's success
- › 5 miles of the Detroit riverfront has been redeveloped from an unattractive and inaccessible landscape into vibrant, economically successful public spaces complete with plazas, pathways, pavilions, and green spaces
- › The Conservancy is responsible for raising the funds needed for the construction, operation, maintenance, security and programming of public spaces located along the riverfront

PROCESS

- › The Conservancy followed Baltimore's Inner Harbour redevelopment as a model, while working with the City, and seven private owners for land assembly

RESULTS

- › The Conservancy offers daily programming to promote health, education, and recreation along the riverfront
- › To date, more than 3 miles of RiverWalk have been redeveloped, creating pedestrian connections from the eastern riverfront to downtown and the rest of the city for the first time
- › There has been a combined \$1 billion (US) in total public and private sector investment
- › In 10 years, the Detroit riverfront has been transformed from industrial wasteland to a regional attraction drawing three million visitors annually
- › The area now generates an estimated \$4.5 million (US) in annual tax revenue

Detroit Michigan

Population:

677,116 (2015)

Metro Population:

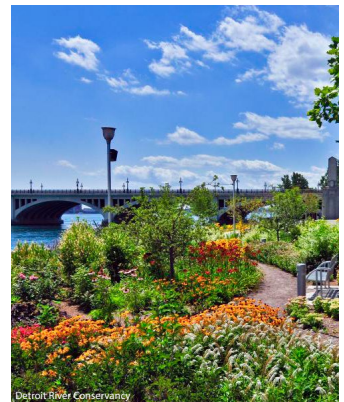
4,292,060 (2010)

Population Per Square Kilometre:

1,884

Land Area In Square Kilometres:

359.4



Sources:

<https://www.planning.org/awards/2014/detroitriverfrontconservancy.htm>

<http://detroitriverfront.org/>

<http://detroitriverfront.org/news/detroit-riverfront-conservancy-receives-national-planning-award>

CREDIT RIVER PARKS STRATEGY

Schollen & Company

2014 CSLA Regional Honour Planning & Analysis Award

PROJECT RELEVANCE: *The Credit River Parks Strategy (CRPS) is an example of a detailed analysis study that resulted in policy and design recommendations to benefit the ecological systems in the Credit River Valley as well as social benefits to the surrounding communities.*

SUMMARY

- › The Credit River Valley is the largest and most diverse natural area in the City of Mississauga
- › The study area encompasses a 27km segment of the Credit River Valley (650ha) and contains seven “Feature Sites” that warrant special consideration
- › The goal of the study is to develop a sustainable, innovative and environmentally responsible Master Plan to guide the planning, development, conservation and management of the publicly-owned and publicly accessible parkland and natural areas
- › The project team integrated community consultation into every stage of the project
- › The CRPS is made of three components: a Master Plan for the valley corridor, a Concept Plan for each of the seven “Feature Sites” and an Implementation Plan for the recommendations
- › The Master Plan recommends the creation and protection of a continuous Natural Corridor in the river valley as well as Transitional Beltlands that act as a buffer
- › The Master Plan also recommends the establishment of the Credit River Heritage Route
- › The project is comprised of comprehensive, detailed site inventory and analysis, including previous studies and reports, and the integration of cultural and natural heritage as essential elements to the Plan

Mississauga Ontario

Population:

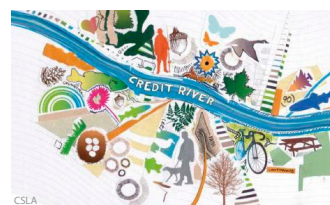
713,443 (2011)

Population Per Square Kilometre:

2,439.9

Land Area In Square Kilometres:

292.4



Sources:

<http://www7.mississauga.ca/departments/rec/parks/crps/pdf/CRPS-PART1-August-8-2013.pdf>

<http://www.csla-aapc.ca/awards-atlas/credit-river-parks-strategy>

CAPITAL REGION RIVER VALLEY PARK

EDA Collaborative Inc.

2008 CSLA National Merit Award

PROJECT RELEVANCE: Formed in 1996, the River Valley Alliance's vision is to create a continuous integrated river valley park system in the Capital Region, from Devon through Parkland County, Leduc County, Edmonton, Strathcona County and Sturgeon County to Fort Saskatchewan. The park aims to cover 18,000 acres linking over 88 kilometres through the valley of the North Saskatchewan River. The central focus of the River Valley Alliance is to protect the natural capital of the river valley while ensuring access for a variety of active and passive pursuits. A capital program plan was developed in 2012 and implementation is ongoing.

SUMMARY

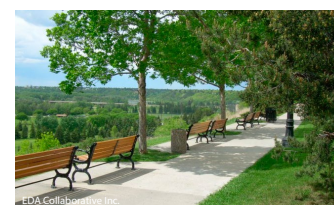
- › The project comprises the development of an Integrated Concept Plan, bringing together the plans and ideas of government and stakeholders within each of the seven municipalities
- › The end result is a Plan of Action that expands on the integrated Concept Plan by outlining proposed features and amenities of the open space system
- › A key element of the site analysis includes the identification of privately owned parcels that will likely be required to improve connectivity and amenity development
- › The Capital Region River Valley Park will be one of the largest river valley parks in the world
- › In 2016, the River Valley Alliance submitted to its members a Draft Capital Program 2017-2022, which contained an overview of proposed projects
- › These projects would build on the existing trails system and complete a continuous trail from Devon, through Edmonton to Fort Saskatchewan by adding additional trails, bridges, docks, and launches

HIGHLIGHTS OF THE PROJECT:

- › Integrated Concept Plan
- › Plan of Action
- › Connectivity and Mapping Initiative
- › Priority Mapping

Capital Region

Includes:
Devon
Parkland County
Leduc County
Edmonton
Strathcona County
Sturgeon County
Fort Saskatchewan

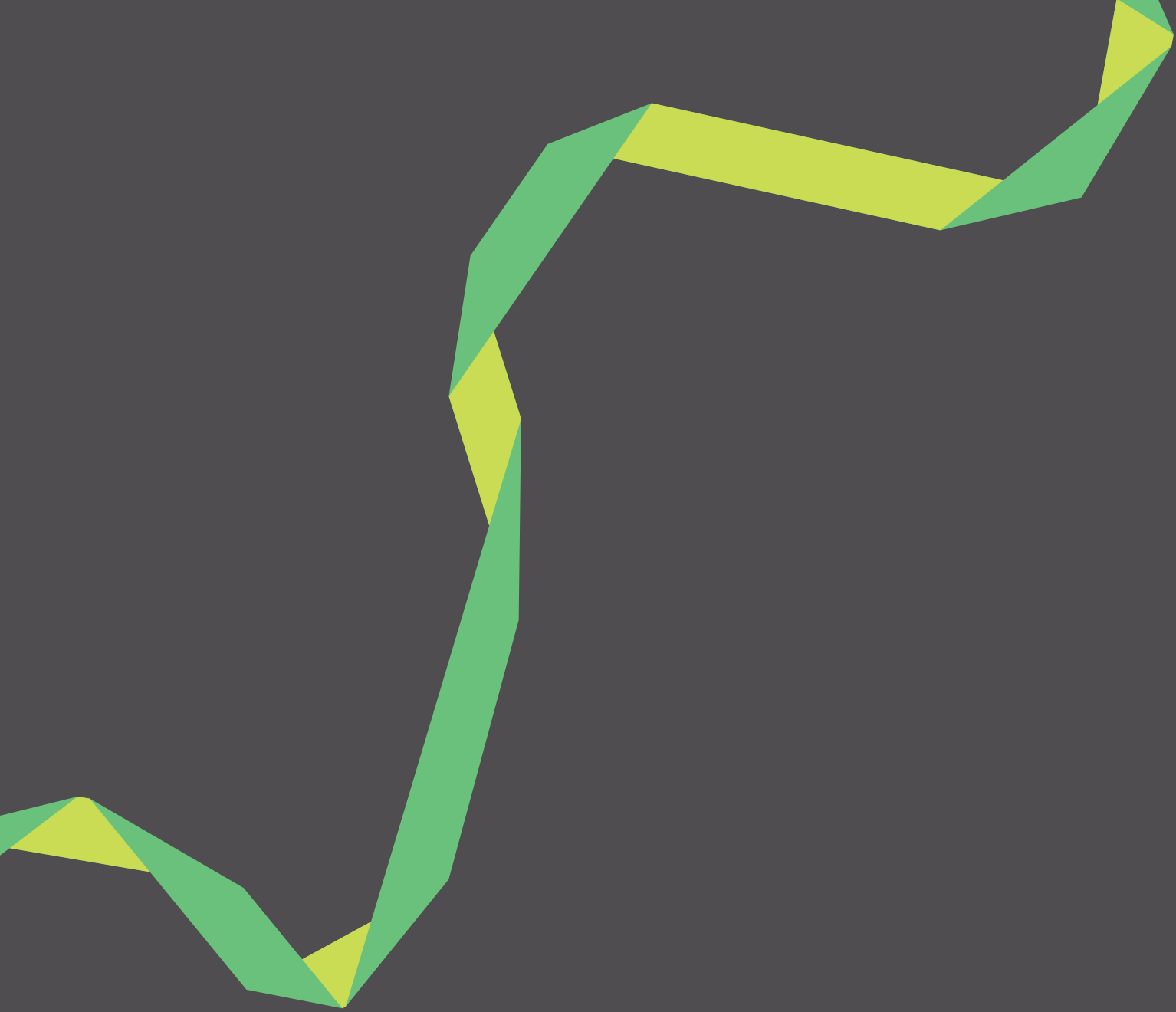


Sources:

<http://eda.ca/projects/2012/05/29/capital-region-river-valley-park/>
<https://rivervalley.ab.ca/about/history-2/plan-of-action/>
<https://rivervalley.ab.ca/wp-content/uploads/2018/04/Full-Plan-of-Action-Exec-Summary.pdf>

DESIGN PRECEDENTS





Design Precedents:

**RESTORATIVE, TRANSFORMATIVE,
& DYNAMIC**

EVERGREEN BRICK WORKS

DTAH, Michael Hough

PROJECT RELEVANCE: *Evergreen Brick Works highlights the benefits of partnering with not-for-profit or private organizations for the (re-)development of post-industrial landscapes in the river valley, providing exceptional community benefit.*

SUMMARY

- › Located in the floodplain at confluence of Mud Creek and Don River, the Don Valley Brick Works was established in 1889 by William Taylor. The facility includes 16 industrial buildings built between the 1880s and 1960s.
- › The brickyard closed in 1984 and was appropriated by the TRCA in 1986. The TRCA then leased the property to the not-for-profit organization Evergreen.
- › Planners, architects, landscape architects collaborated on the design of the site. The project was led by the multi-disciplinary firm DTAH. Michael Hough was the lead author of the Don Valley Brick Works master plan completed in 1990; he was also involved in a number of follow-up studies. The Weston Family Quarry Garden at the Brick Works was one of his projects.
- › The Evergreen Brick Works opened in 2010. New buildings, which are elevated above, attached to and inserted into the original factory structures, support Evergreen's community programming. Buildings are built to withstand flooding and are connected by walkways and bridges. The original quarry is in-filled and is home to woodlands, wetlands, a wildflower meadow and a series of trails, all connected with the surrounding system of nature and waterways.
- › Evergreen hosts programs to engage Canadians to create and sustain healthy urban environments in our schools, public spaces, housing and transit systems, and communities.
- › The Brick Works supports urban agriculture through several programs:
 - › Plant Positivity gardens (Partnered with Aphria's Plant Positivity platform - focusing on native plants' power to heal, renew, connect, thrive, restore and develop individuals and society)
 - › Food Gardens (exploring innovative food growing techniques)
 - › The Greenhouse (raised-bed food gardening and organic agricultural techniques)
 - › Grow Tubes (indoor vertical farming system designed for a cold climate)
 - › Worm Wranglers
 - › Cooking Classrooms

Toronto, Canada

Population:

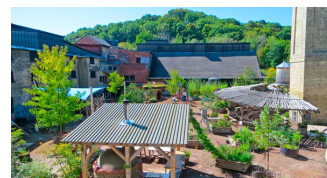
2,731,571 (2016)

Metropolitan Population:

5,928,040 (2016)

Area (Hectares):

4.86



Sources:

<https://tclf.org/landscapes/evergreen-brick-works>

<https://www.evergreen.ca/our-projects/urban-agriculture-at-evergreen-brick-works/>

<https://www.evergreen.ca/blog/entry/remembering-michael-hough/>

WATERFRONT TORONTO

Waterfront Toronto

PROJECT RELEVANCE: *Waterfront Toronto is an example of an organization developed for the purpose of developing and procuring projects for the revitalization of a post-industrial waterfront in a highly urban setting.*

SUMMARY

- › Created in 2001 by the Government of Canada, the Province of Ontario and the City of Toronto, Waterfront Toronto's tagline is "revitalizing our new blue edge". Revitalization of the waterfront is intended to reconnect people to the waterfront while pursuing design excellence, sustainable development, economic development and fiscal responsibility.
- › Waterfront Toronto has a 25-year mandate to transform 800 hectares (2,000 acres) of brownfield lands on Toronto's waterfront into beautiful, accessible, sustainable mixed-use communities and dynamic public spaces.
- › Waterfront Toronto redevelopment is expected to take 25 years to complete, creating approximately 40,000 new residences and 40,000 new jobs. Waterfront Toronto created approximately 9,700 full-time years of employment and contributed \$1.9 billion to the Canadian economy.
- › Several projects have taken place that reflect Waterfront Toronto's goals and values, such as sustainable development and reconnecting people to the landscape. A summary of some of these projects is provided below.
- › Pilot Soil Recycling Facility
 - › The soil recycling facility was established in July 2010 as part of Waterfront Toronto's soil management strategy to determine the viability of treating and re-using impacted soil on site. Benefits of this method include the ability to treat soil near its source, divert soil from landfill, and provide a source of treated soil that can be used in waterfront revitalization projects.
- › Queens Quay (East)
 - › Queens Quay is the main east-west thoroughfare along the waterfront. Designed by West8 + DTAH, redevelopment of Queens Quay is intended to reduce the number of lanes for traffic, create a generous tree lined pedestrian promenade, cycling connections, and improved landscaping.
- › Footbridges
 - › Five timber footbridges will connect the water's edge promenade and boardwalk.

Toronto, Canada

Population:

2,731,571 (2016)

Metropolitan Population:

5,928,040 (2016)

Redevelopment Area (Hectares):

800



Sources:

<https://www.waterfronttoronto.ca/nbe/portal/waterfront/Home/waterfronthome/our-vision/parks>

<https://www.waterfronttoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/queens+quay+east/queens+quay+east>

<https://www.toronto.ca/city-government/planning-development/waterfront/>

- › Designed by West 8 + DTAH, the footbridges will be located at the Police Basin and the Spadina, Peter, Rees and Simcoe slips.

› Tommy Thompson Park

- › Tommy Thompson Park is located in the Port Lands on a man-made peninsula (Leslie Street Spit). The spit extends approximately five kilometres into Lake Ontario.
- › The Toronto Harbour Commissioners (now Toronto Port Authority) began construction of the spit in late 1950s. At the time, it was a site for the disposal of dredged material from the Outer Harbour and surplus fill from development sites in Toronto.
- › In 1989 the Toronto and Region Conservation Authority (TRCA) completed a provincial environmental assessment and planning process, which resulted in creation of the Tommy Thompson Park Master Plan. An addendum to the Master Plan was prepared in 1992 and the Ministry of the Environment approved the plan for implementation in 1995.
- › In the park, one can find a network of trails, wildflower meadows, cottonwood forests, coastal marshes, cobble beaches, and sand dunes. The park has a nature watching area and accommodates activities such as hiking, cycling, rollerblading, and fishing.
- › Three small buildings (Staff Booth, Environmental Shelter, Ecological Research Station) support activity in the park.
- › In 2019, several wetlands were reclaimed off the banks of the spit. To reclaim the wetlands, low quality soils were covered with productive natural cover. The reclamation also included general habitat remediation.



Sources:

- <https://www.waterfronttoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/tommy+thompson+park>
- https://www.thestar.com/news/gta/2013/08/06/torontos_waterfront_dredging_up_the_past_to_build_the_future.html?rf
- <https://www.canadiangeographic.ca/article/exploring-reclaimed-wetlands-torontos-tommy-thompson-park>
- <https://tommythompsonpark.ca/about/>

WILDWOOD CONSERVATION AREA

Upper Thames River Conservation Authority (UTRCA)

PROJECT RELEVANCE: *Wildwood Conservation Area is an example of a park that offers camping, day use and educational programming in a previously industrial landscape.*

SUMMARY

- › The Wildwood Conservation Area is located on a rehabilitated gravel pit (the Wildwood Pit) and was developed alongside the construction of the Wildwood Dam and Reservoir.
- › The Upper Thames River Conservation Authority (UTRCA) began construction of Wildwood Dam and Reservoir in 1963 on Trout Creek, upstream of the Town of St. Mary's. The Wildwood Dam was completed in 1965, and Conservation Area facilities were developed by the UTRCA starting in 1966.
- › Extraction at the gravel pit ended before 1971; rehabilitation was started by the UTRCA and the Ministry of Natural Resources in 1996.
- › The Conservation Area includes a campground (with 413 campsites), hiking trails through the former gravel pit, and day use areas. Educational programs for school-aged children are offered each year.
- › The UTRCA created a rare tallgrass prairie plantation on the site, as well as a thriving fen and pond that supports native plant species, amphibians and reptiles.

St. Mary's, Ontario, Canada

Population:

7,265 (2016)

Campground and Day Use Area (Hectares):

50



Sources:

<https://www.wildwoodconservationarea.ca/about>

https://www.ossqa.com/news_archive/article.go?article_id=134

CARBURN PARK

PROJECT RELEVANCE: *Carburn Park is both a neighbourhood and regional park that is an example of how a restored, post-industrial park can benefit the community in an urban setting.*

SUMMARY

- › Carburn Park is a large natural area park along the Bow River. It includes three man-made ponds, a regional pathway, picnic tables, a picnic shelter, a washroom, ponds, a skating rink in the winter, and numerous wildlife, waterfowl and wildflowers.
- › The park was once part of Senator Patrick Burns' prairie empire, and a right-of-way for a railway line that was to run between Calgary and Montana.
- › The area was mined for gravel in the early 1980s.
- › Carburn Park was created in the 1970s. The name of the park comes from Carburn Aggregates, who used to own the land and who is responsible for creating the park's ponds.

Calgary, Canada

Population:

1,239,220 (2016)

Metropolitan Population:

1,392,609 (2016)

Area (Hectares):

135



Sources:

<https://www.calgary.ca/csps/parks/locations/se-parks/carburn-park.html>

LAKESIDE PARK

PROJECT RELEVANCE: *Lakeside Park uses its industrial past to its advantage. Remnants of clay pipe manufacturing create a unique landscape that draws visitors to the park.*

SUMMARY

- › The park site was originally known as Marigold's Point, settled in 1808 by United Empire Loyalists (many from New Brunswick).
- › The land use slowly switched from agriculture to industrial use – including an oil refinery, cement company and sewer pipe company.
- › The Hamilton and Toronto Sewer Pipe Company built a factory in Clarkson in 1955, producing various sizes of baked clay pipes for 25 years.
- › Over time, discard pipes were piled up at the edge of the property along the shore of Lake Ontario. Pipes were buried, but the eroding embankment has exposed the pipes, which have mixed with shale from the lake bottom. This has resulted in a unique red shingle beach.
- › The park has a playground, amenity buildings, a pond, a dog park, parking lots, and natural and manicured landscaping.
- › The design of Lakeside Park also incorporates innovative green features, such as a previous concrete parking lot, green roof, and splash pad with water reused for park irrigation.

Mississauga, Canada

Population:

721,599 (2016)

Peel Region Population:

1,381,739 (2016)

Redevelopment Area (Hectares):

10



Sources:

<https://cvc.ca/low-impact-development/lid-construction/public-landsa/lakeside-park-mississauga-draft/>

<https://hikingthegta.com/2017/08/12/lakeside-park/>

STILL CREEK RESTORATION

PROJECT RELEVANCE: *Still Creek is one of many examples of a daylighted creek in Canada. The combination of policy changes and active restoration by the community contributed to the project's success.*

- › Still Creek is an important part of the Brunette River system that flows into the Fraser River. It was the first of Vancouver's partially open streams to be daylighted. Changes in policy and active restoration have resulted in the daylighting of this once-buried creek.
- › In 1985, residents, naturalists and the Municipality of Burnaby urged the City to seek easements preserving the Creek and increasing public access.
- › In 1986 Council supported the option to “encourage owners of creek property to apply for rezoning their property to IC-1 (Industrial-Commercial) with accompanying easements, in favour of the City, providing public access and preservation of the open watercourse.”
- › In 1988, Council endorsed a policy to daylight, enhance and protect Still Creek.
- › Sewer contamination from adjoining private properties was eliminated by City staff through an inflow and infiltration program. Additional protections include area development guidelines, Green Zone designation, and various citywide plans and policies.
- › In July 2002, Council approved a 10-year program and funding for daylighting, habitat restoration, rehabilitation and enhancement work on Still Creek (Still Creek Rehabilitation and Enhancement Study).
- › Goals of the project include: making the creek a recreational focus, addressing stormwater issues, improving stream ecology, and creating an educational tool to promote environmental awareness.
- › Chum salmon returned to the creek in 2012 for the first time in decades.
- › In partnership with the Still Moon Arts Society, the Environmental Youth Alliance (EYA) started restoring two sections of Still Creek in 2020. Youth are working to remove invasive species and plant native shrubs and trees along the stream.

Vancouver, Canada

Population:

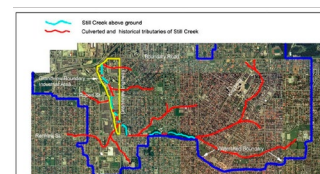
631,486 (2016)

Metropolitan Population:

2,463,431 (2016)

Brunette River Basin Area
(Hectares):

7,330



Sources:

<https://eya.ca/project-view/still-creek-restoration/>
<http://chronology.vancouverplanning.ca/emerging-milestones/emerging-milestones-2012/still-creek-daylighting-habitat-restoration-and-rehabilitation/>
<https://stillmoonarts.ca/stewardship/streamkeepers/>

BELLE PARK

Master Plan: tocher heyblom design inc.

PROJECT RELEVANCE: *Belle Park is an example of a waterfront park with a diversity of user groups, park uses and environmental requirements.*

SUMMARY

- › Belle Park used to be a marshland. Between 1952-1974, the area was operated as a landfill for municipal waste. The Federal Government also dredged material for the Cataraqui River and deposited it along the north shore.
- › In 1978, the park opened and offered recreational programming, including a 9-hole golf course, multi-use courts, connections to Belle Island, a clubhouse, and walking paths.
- › Environmental projects and a long-term management plan to manage leachate from the former landfill have been put in place since 1997.
- › The golf course closed in 2017 and a park Master Plan was developed in 2019.
- › The Master Plan focuses on the natural environment; trails and views; recreation (active and passive); culture; heritage and education; and weed/pest management.
- › The Master Plan aims for the park to become a managed, naturalized urban park space with a balance of recreational uses. It recommends ongoing environmental monitoring and management of the former landfill and continued dialogue with the City environment team.
- › The plan identifies illicit activity as a challenge - e.g. the “[s]ite’s remoteness could permit antisocial or illicit activities which may lead to unsafe public space or destruction of property/vandalism” (p. 57). However, people living in encampments or sleeping rough in the park are not recognized as a user group. There have been conflicts between the City and people living in encampments in the park.

Kingston, Canada

Population:

123,798 (2016)

Metropolitan Population:

161,175 (2016)

Redevelopment Area (Hectares):

44



Sources:

<https://www.thewhig.com/news/local-news/city-closes-down-belle-park-homeless-encampment>
<https://www.carf.info/kingston-past/kingston-archaeology/belle-island.html>
<https://getinvolved.cityofkingston.ca/belle-park>
https://www.cityofkingston.ca/documents/10180/31014584/Projects_BelleParkMasterPlan_Main/a88f4c46-6c69-4bc2-9ee0-c40a3148423f

BURLINGTON ROYAL BOTANICAL GARDENS

PROJECT RELEVANCE: *The Royal Botanical Gardens in Hamilton/Burlington is an example of a quarry site that was transformed to become a well-known Canadian landmark and an area for the preservation of the natural environment.*

SUMMARY

- › In 1929, T.B. McQueensten KC (chairman of the city’s Works Committee and vice-chairman of the Board of Parks Management) urged for an abandoned gravel quarry at the city’s western entrance to be terraced and landscaped. The work was completed under the direction of architect Karl Worghstrom and eventually the area became known as the Rock Garden.
- › As more land was acquired, the project became too large for the parks board to administer. In 1941, the Board of the Royal Botanical Gardens was chartered by special act of the provincial government.
- › The Royal Botanical Gardens have been operating for nearly eight decades. The site is recognized as a World Biosphere Reserve by UNESCO.
- › It is the largest botanical garden in Canada, with 300 acres of display gardens. The Gardens focus is on four main areas: Conservation, Education, Horticulture and Science.
- › The Botanical Gardens also protects and preserves 2,700 acres of environmentally sensitive areas, improving the ecosystem from Lake Ontario to the Niagara Escarpment.
- › The Gardens received Bronze Plaque Award from OSSGA (Ontario Stone, Sand & Gravel Association) in 1976 to acknowledge the origins of the grounds as a gravel pit and their transformation into a world recognized garden.

Hamilton, Canada

Population:

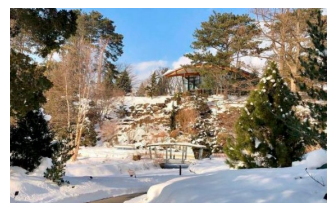
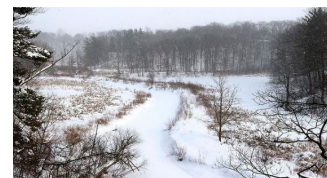
536,917 (2016)

Metropolitan Population:

747,545 (2016)

Brunette River Basin Area (Hectares):

1,100



Sources:

<https://www.rbg.ca/>

https://www.ossqa.com/bronze_plaque/

<https://archive.macleans.ca/article/1957/7/20/the-garden-that-grew-from-a-gravel-pit>

LOWER DON TRAIL ACCESS, ENVIRONMENT + ART MASTER PLAN

DTAH

PROJECT RELEVANCE: *The Lower Don Trail Access, Environment + Art Master Plan proposes practical methods to connect residents to the river valley, taking advantage of existing infrastructure and opportunities wherever possible.*

SUMMARY

- › Completed in 2018, the Lower Don Trail Access, Environment + Art Master Plan aims to improve pedestrian and cyclist connections in the Lower Don Valley. The Plan focuses on several themes, such as accessibility and connectivity. Key points and recommendations are highlighted below.
- › Accessibility
 - › Provide clear and safe access to the trail for different levels of mobility and ability.
- › Connectivity
 - › Connect major destinations along and adjacent to the trail, while promoting the Don Valley as a destination unto itself.
 - › Link the trail to existing infrastructure including other trails, bike lanes, streets and transit.
 - › Integrate the trail into the life of its surrounding neighbourhoods, through signage and public realm improvements.
 - › Remove barriers and introduce new access features.
 - › Complete trail improvements, planting, and restoration.
 - › Add amenities like benches for improved accessibility and user comfort.
- › Examples of new connections proposed include:
 - › New stair access from the existing bridges at Gerrard and Dundas Streets
 - › A new structure connecting the Pottery Road Trailhead to the new Bayview Avenue Multi-use Trail for cyclists and pedestrians
 - › Cantilevered pedestrian and bicycle lanes from the Lower Don Trail to the new Bayview Avenue Multi-Use Trail and the Brick Works
 - › Bridge connections to the snow dump site

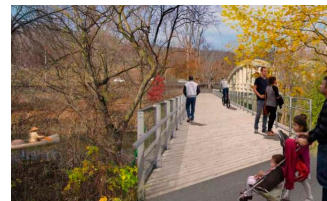
Toronto, Canada

Population:

2,731,571 (2016)

Metropolitan Population:

5,928,040 (2016)



Sources:

https://www.toronto.ca/wp-content/uploads/2018/01/8ecf-lower_don_trail_master_plan.pdf

VANCOUVER WATERFRONT PARK

PWL Partnership Landscape Architects

PROJECT RELEVANCE: *Vancouver Waterfront Park is a stand-out project, creating an easily identifiable landmark that connects residents and visitors to the water's edge while prioritizing sustainable and culturally appropriate materials.*

SUMMARY

- › Located on the north bank of the Columbia River in Vancouver, WA, Waterfront Park aims to revive a former industrial site and connect the historic downtown and Esther Short Park with the waterfront.
- › PWL created the detailed design for the public realm, parks and open space plan along with the detailed waterfront park design.
- › Adjacent to the waterfront, the mixed use neighbourhood includes residential, retail, commercial, civic, park spaces, environmental restoration areas.
- › A cantilevered pier at the foot of Grant Street projects more than 30 metres over the water. A collaborative process between the public artist's team and the landscape architects, the cable-stayed structure is meant to capture the enduring spirit and function of the river.
- › The project prioritized local and symbolic materials.

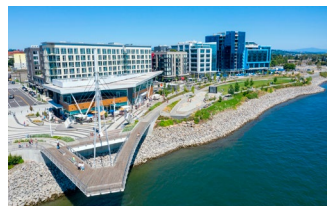
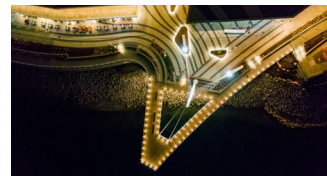
Vancouver, Washington, USA

Population:

180,556 (2019)

Park Area (Hectares):

12



Sources:

<http://landezine.com/index.php/2021/02/vancouver-waterfront-park/>

LAKESIDE PARK AND PROMENADE

relais Landschaftsarchitekten

PROJECT RELEVANCE: *The Lakeside Park and Promenade in Uberlingen, Germany is a subtle park project that brings attention to local ecologies while providing access to the water's edge.*

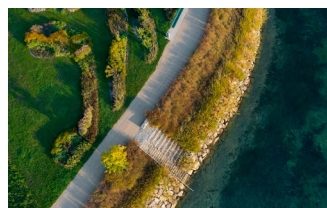
SUMMARY

- › The design concept for the Lakeside Park and Promenade focuses on climate change, biodiversity and the development of ecosystems.
- › The park and promenade are located on the south side of Bodensee (Lake Constance) and the Molasse cliffs (Molassefelsen).
- › The park is narrow, relying on synergies between open space and ecological concerns while taking advantage of fluctuations in annual water levels to reveal the dynamic character of the design.
- › The entire park will be realized as part of the Uberlingen Garden Show in 2021.
- › The project includes various subtle interactions with the water and water access locations. A beach meadow will be established along the shoreline.

Uberlingen, Germany

Population:

22,000 (2013)



Sources:

<http://landezine.com/index.php/2020/12/lakeside-park-and-promenade-uberlingen/>

QUEEN ELIZABETH OLYMPIC PARK

Hargreaves Associate / LDA Design

PROJECT RELEVANCE: *As a complex, phased park project, the Queen Elizabeth Olympic Park shows how a park space can effectively transform a brownfield site into an ecologically diverse and programmatically exciting landscape in the river valley.*

SUMMARY

- › The Queen Elizabeth Olympic Park formed the centerpiece for the London Games, which have been called the ‘Greenest Games’ in history. It is the largest new park to be developed in Europe in over 150 years.
- › The park design integrates British tradition, the reality of post-industrial brownfields, and advances in sustainability. A major focus of the project was on the restoration of the River Lea.
- › The park area includes a northern environmental park and a southern festival park.
 - › The environmental park converts the channelized industrial canal into a naturalized meandering river corridor with lowland meadows, lawns, sculpted banks.
 - › The South Park creates gently terraced river banks and includes the Olympic Gardens.
- › A Transformation Plan guided the re-use and replacement of the Games infrastructure (paving, temporary sporting venues) with park programming, a cycle track, an outdoor performance area and habitat landscapes.

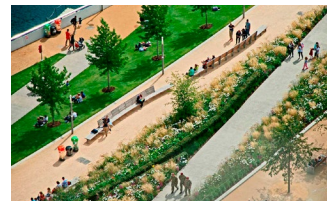
London, England

Population:

9,100,000 (2020)

Park Area (Hectares):

226



Sources:

<http://landezine.com/index.php/2016/07/queen-elizabeth-olympic-park-by-hargreaves-associates/>

FOREST PARK

PLAT Studio

PROJECT RELEVANCE: *Forest Park overcame issues of inaccessibility and degradation to create a park which is now an integrated ecological and recreational resource for the community.*

SUMMARY

- › The recent influx of industry workers and residents has created a need for conscious inclusion of green infrastructure to support the district of Kunshan as it continues to grow
- › Kunshan West has natural expansive water and open space resources
- › However, poor infrastructure, in combination with rapid development, have left these natural resources underutilized and neglected
- › Forest Park, a large 163 hectare area of forested wetland, has the capacity to act as an ecological and recreational anchor for the region
- › Forest Park's pre-existing condition posed two levels of inaccessibility: one, vegetation within Forest Park was densely overgrown; two, the perimeter of the park is surrounded by private developments with few accessible entry points, to the extent that its western edge acted as a barrier between the residents and the park's amenities
- › Accessibility was addressed by providing new entry points and gateway nodes
- › Park features include: a recreational plaza fitted with amenities for social and active outdoor gatherings, an amphitheater, visitor center, and a cafe
- › Visitors can explore the network of trails and boardwalks within Forest Park. These internal pathways traverse a variety of peaceful and natural habitats, ranging from wetlands to forests
- › The green infrastructure strategy aims to improve water quality by utilizing its vast network of filtering wetlands, including aquatic reed planting and a water pump system. Bioswales and ornamental wetlands support the park's mechanic infrastructure

Kunshan, Jiangsu

Population:

981,300.00⁽²⁰¹⁹⁾

Population Per Square Kilometre:

1054.03

Land Area In Square Kilometres:

931.0



PLAT



PLAT



PLAT

Sources:

<http://landezine.com/index.php/2020/05/forest-park-by-plat-studio/>

LOWER DON TRAIL ACCESS, ENVIRONMENT AND ART MASTER PLAN

DTAH

2014 CSLA Regional Honour Planning & Analysis Award

PROJECT RELEVANCE: *The Lower Don Trail Access, Environment and Art Master Plan is an example of a design strategy that builds upon years of river valley improvements by many designers and community groups. Small interjections in the landscape help to increase access and enhance the visitor experience.*

SUMMARY

- › Public and stakeholder consultation played a large role in the Master Plan
- › The Plan includes designs for new stairs to access the river valley, trail improvements and cyclist network improvements within the river valley
- › The Plan also includes open space improvements and river crossings
- › The Master Plan goals include:
 - › Recommending strategies to improve environmental protection and access
 - › Considering possibilities for public art in the lower Don River valley lands
 - › Providing a long-term strategy to establish a theme, create positive user experiences and improve access into the river valley
 - › Incorporating all existing studies, plans and initiatives into the study area



CSLA

Toronto Ontario

Population:

2,615,060 (2011)

Metro Population:

5,583,064 (2011)

Population Per Square Kilometre:

4,149.5

Land Area In Square Kilometres:

630.2



CSLA

Sources:

<http://www.csla-aapc.ca/awards-atlas/lower-don-trail-access-environment-and-art-master-plan>

https://www.evergreen.ca/downloads/pdfs/Lower_Don_Master_Plan_Final_2013-09-09.pdf

EAST BOWMONT NATURAL ENVIRONMENT PARK DESIGN DEVELOPMENT

O2 Planning + Design Inc. with AECOM and Watershed+
2015 CSLA National Merit Planning & Analysis Award

PROJECT RELEVANCE: *The East Bowmont Natural Environment Park Design Development combines the cultural significance and ecological function of the Bow River into an immersive visitor experience while improving the water and environmental quality.*

SUMMARY

- › The site is a former gravel quarry in Calgary's Bow River Valley
- › The designers combined a stormwater treatment complex with a natural park for the public to enjoy
- › The project includes a groundbreaking stormwater quality retrofit which incorporates numerous water-based landscapes and artworks
- › The design helps to illustrate the journey of the water's cleansing process from storm sewer inlet to Bow River outlet

Calgary Alberta

Population:

1,096,833 (2011)

Metro Population:

1,214,839 (2011)

Population Per Square Kilometre:

1,329

Land Area In Square Kilometres:

825.3



Sources:

<http://www.csla-aapc.ca/awards-atlas/east-bowmont-natural-environment-park-design-development-plan>

MILL RIVER PARK AND GREENWAY

OLIN

2015 ASLA Honor and General Design Awards

PROJECT RELEVANCE: *The Mill River Park and Greenway is a transformed landscape adjacent to downtown Stamford Connecticut. The project transformed the river's edge into an ecological and community gathering place from a derelict industrial region.*

SUMMARY

- › The design process maintained a spirit of community and collaboration
- › Mill River Park has become a place for gathering and festivities
- › It is a 14-acre park and river restoration completed by the Army Corps of Engineers and designed by OLIN
- › The park runs along the Rippowam River, which stretches 17 miles inland
- › The lower nine miles of the river courses through Downtown Stamford and was coined Mill River in 1642
- › Mill River suffered from industrial pollution
- › The demolition of the dam and restoration efforts have helped to reverse the effects of river's degraded ecological systems, re-establish wildlife migration patterns and reduce sedimentation into Mill River
- › The project had three goals:
 1. Create a park that meets the recreational and civic needs of a diverse population
 2. Provide a natural habitat for native flora and fauna, and
 3. Offer a vision that is economically viable, maintainable and implementable

HIGHLIGHTS OF THE PROJECT INCLUDE:

- › Integrates of pre- and post-contact history, natural heritage
- › Addresses invasive species, flooding and siltation
- › Includes a collaborative design process: ecologists, civil engineers, engaging the public
- › Incorporates techniques to encourage natural flow of water and flood management

Stamford Connecticut

Population:

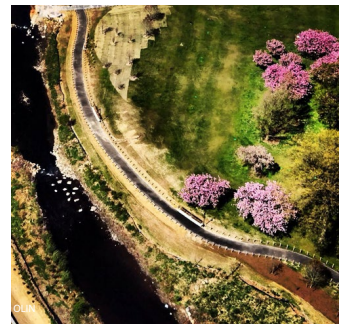
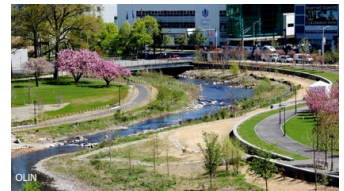
128,874 (2015)

Population Per Square Kilometre:

955.3

Land Area In Square Kilometres:

134.9



Sources:

<https://www.theolinstudio.com/featured-projects/#/mill-river-park-and-greenway/>

<https://www.asla.org/2015awards/95842.html>

PARC DIAGONAL MAR

EDAW EMBT

2005 ASLA General Design Award of Honor

PROJECT RELEVANCE: *Parc Diagonal Mar is an example of a river-front open space plan that combines ease of water access, ecological restoration and engaging sensory experiences for park visitors in a dense urban context.*

SUMMARY

- › \$900 million mixed-use project that began in 1997 with a 10-year development plan
- › The site is located on a former rail yard and became part of an 84-acre mixed use development (34 acres is devoted to the park)
- › Parc Diagonal Mar became a greenway that leads hundreds of thousands of residents from the surrounding communities to the Mediterranean Sea
- › Design elements and the park's composition reference modern art, which is valued in Barcelona
- › The park includes engaging, playful and interactive elements
- › The design was a result of significant collaboration between the private developer and client and the public agencies for parks and urban design
- › A major element of the park's function is storm water retention
- › The project resulted in the first public/private sustainability agreement in Spain; sustainable design features were integrated into the park design

Barcelona Spain

Population:

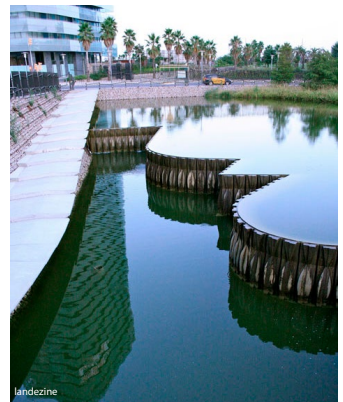
1,602,000 (2014)

Population Per Square Kilometre:

15,721.3

Land Area In Square Kilometres:

101.9



Sources:

<https://www.asla.org/awards/2005/05winners/492.html>

<http://www.landezine.com/index.php/2009/09/park-diagonal-mar/>

HAROLD SIMMONS PARK

MVVA | 2016-2021

PROJECT RELEVANCE: *Trinity River Park is an excellent example of design influencing park experience by embracing the natural ebb and flow of the river landscape. Residents of Dallas are immersed in the riparian landscape and able to access the river at different flooding levels.*

SUMMARY

- › Long stretches of undeveloped land and limited access opportunities have separated the residents of Dallas, Texas from the Trinity River for many years
- › The design of Harold Simmons Park by MVVA contributes to municipal efforts to connect the river with the city
- › The park's design has two core concepts:
 1. Civic spaces (playgrounds, fountains, plazas and lawns providing a connection between the city and the floodplain while protecting programmatic areas from extreme flooding and bringing a sense of identity to the dry side of the city's levees)
 2. Naturalistic/riparian landscapes (restoring the ecological function and natural beauty of the channel and its banks while reducing the vulnerability of pathways and other important design elements)
- › The schematic design separates programmatic and ecological zones to ensure the maximum functionality of each
- › The design also protects city from major flood events with adaptable landscapes, making the park accessible even in 10-year storms

Dallas Texas

Population:

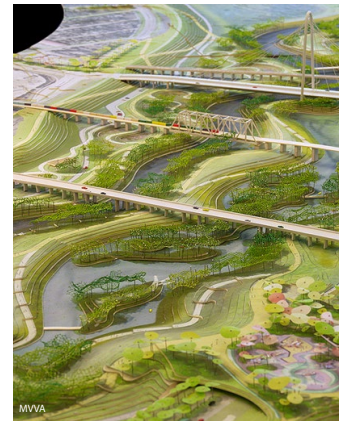
1,258,000 (2013)

Population Per Square Kilometre:

1,258.9

Land Area In Square Kilometres:

999.3



Sources:

<http://www.mvva.com/project.php?id=114&c=parks>

LOS ANGELES RIVER REVITALIZATION MASTER PLAN

Mia Lehrer + Associates, with Civitas Inc., and Wenk Associates

2009 ASLA Honor Award

PROJECT RELEVANCE: *Although the Los Angeles River's environmental integrity has been greatly diminished, and is located in a highly-urbanized area, compared to Edmonton's North Saskatchewan River, the Plan provides innovative examples of river-focused public spaces that still provide ecological functions. As well, the Plan identifies bold moves such as reconnecting adjacent neighbourhoods to the river through active transportation paths, greenways, and public open space.*

SUMMARY

- › The 2009 Plan puts forward a vision to transform the channelized Los Angeles River into a recreational and ecological resource, with the creation of a public greenway corridor
- › Initially channelized by the Army Corps of Engineers in the 1930s for flood prevention, the Los Angeles River is envisioned within this Plan to become a 32 mile green spine traversing Los Angeles
- › Twenty 'Community Opportunity Areas' were selected along the river corridor to illustrate what might be feasible through implementation of various improvement scenarios
- › The Master Plan developed goals that can be implemented through design solutions, such as:
 - › Revitalizing water quality: by enhancing flood storage to slow flow velocities, enabling the reintroduction of vegetation; improving water quality using stormwater treatment; creating better public access via terraces, ramps, pocket parks and ponds; and restoring the riparian ecosystem
 - › Greening neighbourhoods: by creating a green spine through the city; connecting neighbourhoods to the river by green streets; transforming brownfield sites into parks; building bridges and gateways; and by public art and programmed events
 - › Adding value: by spurring development through open space revitalization, and creating increased tax revenue
- › The Plan is intended to be a 25-50 year blueprint for implementing comprehensive improvements that would make the Los Angeles River a treasured landmark and a catalyst for a sustainable development
- › Architect Frank Gehry is currently working with the City and the Los Angeles River Revitalization Group to draft an updated master plan that will flesh out design elements that were left out of the 2009 Plan, including bridge, bike path, and walkway designs
- › Gehry's involvement can help spur change for the concrete-lined river

Los Angeles California

Population:

3,971,896 (2015)

Metro Population:

13,131,431 (2013)

Population Per Square Kilometre:

3,271.7

Land Area In Square Kilometres:

1,214

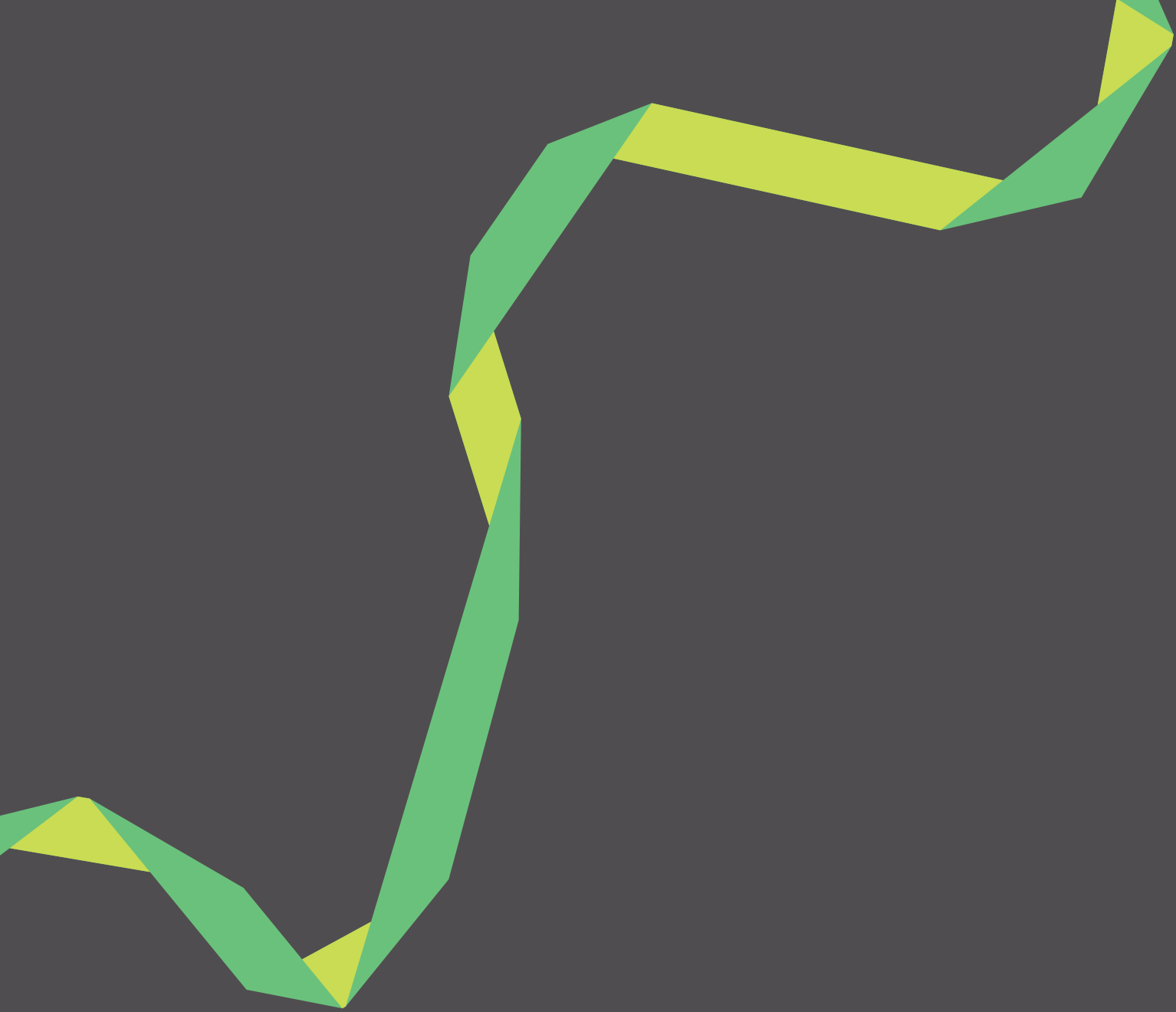


Sources:

<https://www.asla.org/2009awards/064.html>

http://boe.lacity.org/lariverrmp/CommunityOutreach/pdf/LARRMP_Final_05_03_07.pdf

<http://www.latimes.com/local/lanow/la-me-ln-la-river-frank-gehry-20150807-story.html>



Design Precedents:
CULTURAL FOCUS

BIG RIVER LANDSCAPE

**Janet Rosenberg & Studio, Patkau Architects, Era Architects,
Blackwell Engineers**

2017 Design Competition

PROJECT RELEVANCE: *Big River Landscape provides an example of a project which reconnects people to a major river system and its many layered-history while enhancing its natural resources to create 'must-see' destinations and new cultural associations.*

SUMMARY

- › The objectives for the re-design of Nepean Point is as follows: encouraging discovery of the park; and, transmitting knowledge of the region's history and cultural resources to visitors
- › Objectives were met by enhancing connections to the park, and building upon existing features to create 'must see' destinations, including a promontory vista
- › The design redefined the way visitors view and interact with the vista by creating rich sensory experiences. This was an effective strategy for interpreting and transmitting associations, histories, and narratives of the river landscape
- › Big River Landscape serves as a gateway that reinterprets the river landscape and is the medium to discuss and celebrate our layered histories. The proposed reinterpreted 'river' is now a choreographed journey of exchange: of ideas, beliefs dialogue, and new cultural memories
- › Designed sensory experiences include: intimate meandering meadow paths for contemplative moments; textured paving reflecting the river and sky along the esplanade; deep seating nooks in which to listen to stories and narratives of the landscape; a stage and amphitheatre featuring a birch bark canoe; and three re-envisioned entrance points to set the tone for the park
- › The design's embrace of the many-layered cultural history of Nepean Point compliments the neighbouring National Gallery of Canada's recent re-visioning of the Canadian and Indigenous galleries to better present a narrative and begin a dialogue the of intertwined histories and identities of the area
- › Of primary importance to the vision for the park is the restoration and enhancement of connections, both physical and spiritual between Nepean Point and the surrounding Big River Landscape
- › The vision for the park includes establishing vital new places for people along the river's edge where art, music, theatre, history, education, festival, relaxation, and pleasure are brought together
- › Through innovative design moves, a framework has been created to support musical, artistic and festival performances, as well as larger gathering and exhibitions

Ottawa, Ontario

Population:

1,393,000 (2020)

Population Per Square Kilometre:

499.24

Land Area In Square Kilometres:

2,790.22



Sources:

<https://ncc-ccn.gc.ca/projects/big-river-landscape>

TAZA PARK

Design Workshop

2020 Merit Award for Planning & Analysis, ASLA Colorado

PROJECT RELEVANCE: *Taza Park is an example of incorporating the values of Indigenous stakeholders into the design of a park, including providing space for wildlife to flourish in the landscape.*

SUMMARY

- › Taza Park is part of the larger 'Taza' master plan. The Taza site comprises more than 1,200 acres of area, and will encompass three developments: Taza Park, Taza Crossing, and Taza Exchange
- › The design for Taza Park is based around the cultural values of the TsuuT'ina nation: giving back what one takes, building powerful connections to the land, and promoting regeneration
- › The design for Taza Park restores the hydrology of the land by creating new ecological corridors that improve the biodiversity of the environment
- › These corridors establish and underlying framework for the park system which, in form, mirrors the intricate overlay of oxbows in the nearby Elbow River to create landform and boardwalks twisting around ephemeral stormwater ponds, which drain to Weaselhead Flats, Calgary's largest and most important marshlands
- › Design for animal species include: preservation of existing tree canopy, limited access to part's of the park during mule deer mating season, layered habitat for Red Fox nesting and hunting, connected aquatic habitat for beaver rearing and roaming, native vegetation for grouse foraging and brood rearing
- › Design for recreation include: space for ice art sculpture birdwatching, hiking, cross country ski course, biking, tipi camping

Calgary, Alberta

Population:

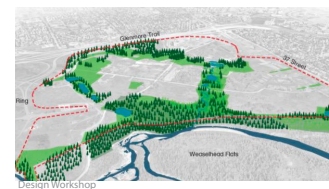
1,547,000 (2020)

Population Per Square Kilometre:

1874.47

Land Area In Square Kilometres:

825.3



Sources:

<https://togetherattaza.com/>

<https://www.designworkshop.com/projects/taza-park.html>

SOUTH WATERFRONT GREENWAY

SWA Group

2018 The Waterfront Center, Excellence on the Waterfront Park/Walkway/Recreational Honor Award

PROJECT RELEVANCE: *South Waterfront Greenway is an example of a project which creatively and seamlessly combines environmental, cultural, and growth in an urban waterfront context.*

SUMMARY

- › Situated along the Willamette River in Portland, Oregon, the South Waterfront Greenway is a 1.5 mile extension of the City's downtown parks and includes the reclamation of the river's edge for public recreation
- › Working closely with the City of Portland, developers, and natural resource advocates, the design team devised a rational plan that places access and activity in targeted nodes without compromising habitats
- › These spaces range from dramatic, cantilevered pier outlooks, boat launches, and active civic plazas to quiet, sloping lawns, meadows, and terraces that are connected to the city's riverwalk, bikeway, tramway and light rail systems
- › It is a model for new urban waterfront parks that must meet a combination of environmental, cultural, and growth goals on common ground

Portland, Oregon

Population:

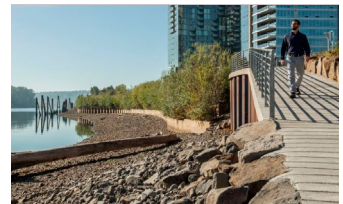
645,291 (2019)

Population Per Square Kilometre:

1718.48

Land Area In Square Kilometres:

375.5



Sources:

<https://www.swagroup.com/projects/south-waterfront-greenway/>

IKA MEDITATION SPOT

Studio Nomad, Batlab Architects

PROJECT RELEVANCE: *The Ika Meditation Spot provides an example of designing spaces for a focus on mental health.*

SUMMARY

- › The blue meditation point draws attention to a neglected part of stream Ika
- › The shape and structure of the 4m disc was affected by the natural conditions provided by the collapsed brook bank
- › The platform rests on a fallen tree which slopes towards the waterfall
- › The cantilevered wooden disc stretches out above the stream, thus creating the most direct connection possible between one who wants to relax and to nature
- › The meditation spot will function until nature reforms the local environment

Cernat, Transylvania

Population:

3978 (2011)

Population Per Square Kilometre:

30.84

Land Area In Square Kilometres:

129.0



Landezine



Landezine



Landezine

Sources:

<http://landezine.com/index.php/2015/10/ika-meditation-spot/>

A CIVIC VISION AND ACTION PLAN FOR THE CENTRAL DELAWARE RIVER

Wallace Roberts & Todd, LLC
2009 ASLA Honor Award

PROJECT RELEVANCE: *The Plan for the Central Delaware River is a landmark project that focuses on increasing access to the river for under-served members of the population and encouraging public participation in urban planning.*

SUMMARY

- › The design of the riverfront was a collective process
- › The goal was to reconnect under-served and isolated communities to the river
- › In part, the goal was accomplished by balancing development and a world class park system while giving public will a voice to change the city's future
- › This was the first time in nearly two generations that the City of Philadelphia and its citizens engaged in a public discussion about the future of a major section of the city
- › The design addresses the ad hoc urban development that had occurred in recent history after the decline of industry in the city

Philadelphia Pennsylvania

Population:

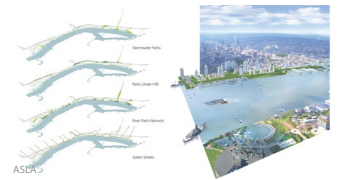
1,567,442 (2015)

Population Per Square Kilometre:

4,271.0

Land Area In Square Kilometres:

367



ASLA

Sources:

<https://www.asla.org/2009awards/564.html>
https://why.org/wp-content/uploads/planphilly/assets_4/http-planphilly-com-sites-planphilly-com-files-ppt_ag-meeting-06-04-07v2-pdf.original.pdf

PHILADELPHIA'S INCREMENTAL LANDSCAPE

1996-ongoing

PROJECT RELEVANCE: *The shoreline of the Schuylkill River in Philadelphia provides an example of a landscape with socio-cultural value that helps to stimulate economic and community growth through active public use.*

SUMMARY

- › Incremental public realm restructuring of the Schuylkill River by the City of Philadelphia Streets Department started in 1996
- › Bulkheads were installed along the bank and the shoreline was filled to create flat, programmable land area
- › New high rises, activated park spaces, and improved connections now exist along the river's edge as a result of years of public space improvements
- › The river's edge, which was once an industrial site, has become a welcoming civic amenity
- › The armature, created by a simple paved path, led to impactful offshoot projects and a networked public realm
- › The pathway connects to the Art Museum, Water Works, Boathouse Row and the greater Fairmount Park system
- › The City of Philadelphia, along with Schuylkill Banks Development Corporation, continued to make incremental improvements over the years
- › This project emphasizes the idea that by taking the first step, no matter how small, a municipality can show commitment and build support for continued improvement in the public realm

Philadelphia Pennsylvania

Population:

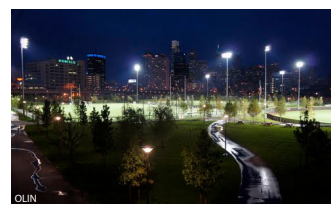
1,567,442 (2015)

Population Per Square Kilometre:

4,271.0

Land Area In Square Kilometres:

367



Sources:

<https://www.schuylkillbanks.org/landmarks/schuylkill-river-park-markward-rec-center>

<https://www.fsrp.org/>

CITY/PARK HYBRIDIZED

SWA Group

2013 ASLA Analysis and Planning Honor Award

PROJECT RELEVANCE: *City/Park Hybridized is a large-scale landscape design that integrates ecological and anthropogenic functions into a larger urban network scheme, resulting in small-scale, tangible improvements for the residents of Changsha, China.*

SUMMARY

- › Goal to reconnect people to the cultural heritage of the river through the Changsha River Park
- › The project was a response to the channeling and consolidation of river systems throughout southern China and the separation of the city and river through the levee system, which was constructed due to losses from flooding
- › Four strategies to connect the river back to the city were implemented:
 1. Increase the size of the levee and add terraces for a more transitional landscape
 2. Create a series of 'Green Fingers' that extend into the city, providing drainage for runoff as well as a bicycle network for the city
 3. Combine landscape and architecture in the surrounding development, integrating a layered pedestrian and green terrace system with retail and residential/office towers, increasing the value of the park on the urban edge
 4. Create new wetlands for runoff, bio-filtration, habitat creation and recreation

Changsha Furong China

Population:

523,730 (2010)

Population Per Square Kilometre:

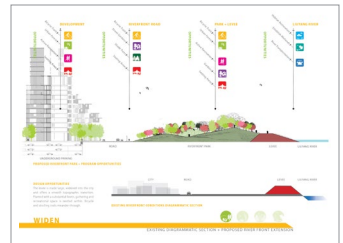
12,470

Land Area In Square Kilometres:

42



ASLA



ASLA



ASLA

Sources:

<https://www.asla.org/2013awards/212.html>

OODENA CELEBRATION CIRCLE

HFTC Planning & Design

1995 CSLA National Honour Award, 2007 CSLA National Merit Award

PROJECT RELEVANCE: *The Oodena Celebration Circle was inspired by the myths and sacred places of the many peoples drawn to The Forks over its 7,000-year history. The client's need for a spiritual and ceremonial 'heart' for The Forks at the junction of the Red and Assiniboine Rivers was seen as an opportunity to reconnect with the cultural history of the site and the natural forces of earth, water and sky.*

SUMMARY

- › Situated at the Forks, at the confluence of the Red and Assiniboine Rivers, which has been a gathering place for thousands of years
- › Called the Oodena Celebration Circle, after the Ojibwa word meaning "heart of the city"
- › The circle was conceived as an opportunity to demonstrate reverence for the long cultural history of the site

PROJECT HIGHLIGHTS INCLUDE:

- › A 3-metre-deep excavation unearthed a 3,000 year old layer of soil rich in artifacts
- › The resulting bowl became a spiritual gathering place without reference to cultural specific symbols
- › Monoliths surrounding the bowl align to direct the visitors attention to the sun on the horizon, and act as guideposts for constellations at night
- › Aside from passive uses, the space is used as a theatre for events and performances



Winnipeg Manitoba

Population:

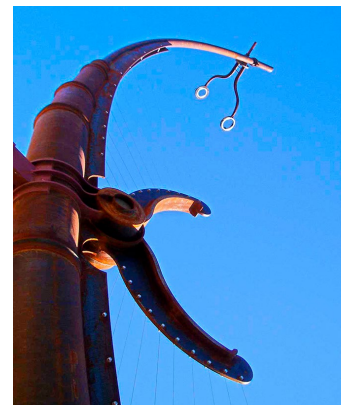
663,617 (2011)

Population Per Square Kilometre:

1,417.7

Land Area In Square Kilometres:

468.1



Sources:

<https://www.theforks.com/attractions/oodena-celebration-circle>

GRORUDPARKEN (GROUND PARK)

LINK Landskap | 2013

PROJECT RELEVANCE: *Grorudparken (Ground Park) is a Norwegian example of a landscape that builds on the cultural significance of the river while including the needs and desires of a multi-cultural community.*

SUMMARY

- › One of four new neighbourhood parks in Groruddalen
- › The park includes facilities for athletics, play, recreation, youth programs, social interaction and cultural activities for a diverse population
- › Municipal departments including The Department of Recreation, The Planning Office, The Office of Cultural Heritage Management and the District of Grorud were involved in the planning and design of the park
- › It helps to create a continuous landscape and recreation corridor along the River Alna, integrating cultural and historical artifacts with new experiences
- › The project addresses flood mitigation, stormwater management by purifying runoff and cleaning sub-surface materials from surrounding areas
- › There is a focus on lighting, which Edmonton may or may not want to consider depending on the ecological context

Oslo Norway

Population:

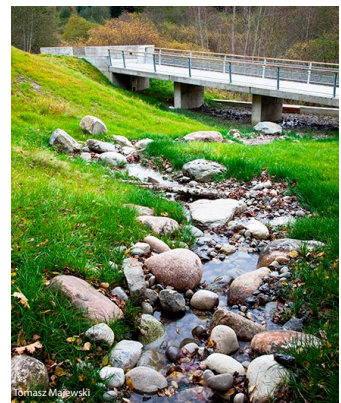
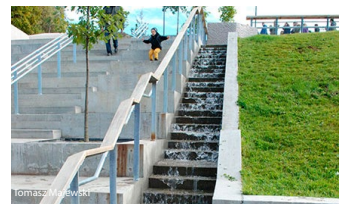
618,683 (2012)

Population Per Square Kilometre:

1,362.7

Land Area In Square Kilometres:

454



Sources:

<http://www.landezine.com/index.php/2015/04/grorudparken-by-link-arkitektur/>

CHICAGO RIVERWALK EXPANSION

Sasaki, Ross Barney Architects, Alfred Benesch Engineers,
Jacobs/Ryan Associates | 2015-2016

PROJECT RELEVANCE: *The Chicago Riverwalk Expansion is part of a larger system of river edge improvements in Chicago, Illinois. The project successfully integrates the active use of the river (boating, running, cycling) and passive urban enjoyment of the river, enriching the total experience of the landscape.*

SUMMARY

- › This project responds to the continued effort to re-integrate the Chicago River as part of the city for ecological, recreational and economic benefit
- › Recent improvements in water quality allow the river to be used for recreation
- › Phases Two and Three include six blocks between State Street and Lake Street to provide a pedestrian connection between the lake and the confluence of the river

PROJECT HIGHLIGHTS INCLUDE:

- › Creating accessible connections to the river from the urban network
- › Integrating the river pedestrian network into the city's network
- › Creating opportunities to use the river for recreation, particularly boating, and places to observe the river
- › Integration of the river into the city's urban culture

Chicago Illinois

Population:

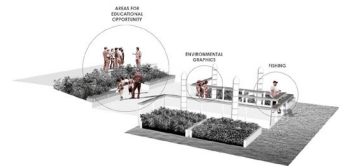
2,720,546 (2015)

Population Per Square Kilometre:

4,488.6

Land Area In Square Kilometres:

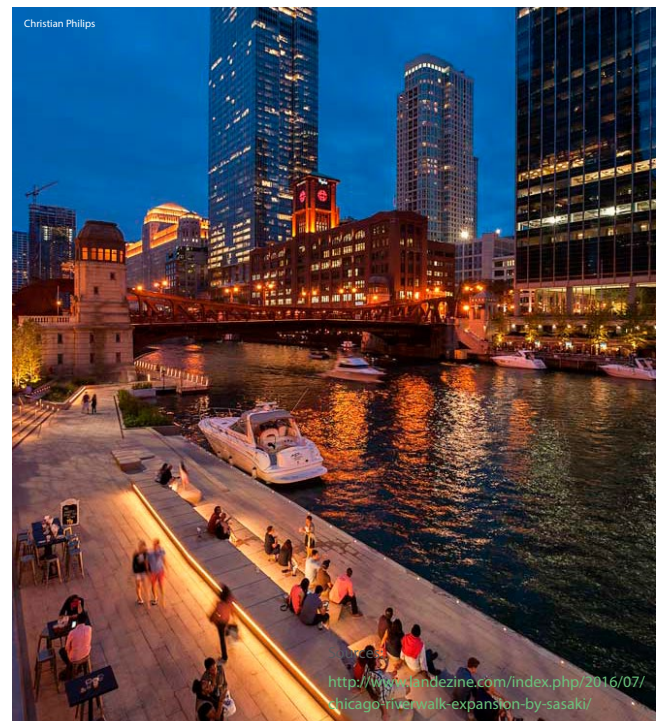
606.1



SASAKI



Christian Philips



Christian Philips

<http://www.sandezine.com/index.php/2016/07/chicago-riverwalk-expansion-by-sasaki/>

WANUSKEWIN HERITAGE PARK

Crosby Hanna & Associates

1996 CSLA National & Prairie Region Honour Awards, 1996 Design Council of Saskatchewan: Premier's Award of Excellence

PROJECT RELEVANCE: *This major First Nations culture heritage park, immediately north of Saskatoon, is of national significance. Particular care has been devoted to ensuring that its development presents an appropriate cultural and environmental image, in conjunction with a strong visitor experience. The park offers an excellent example of combining First Nations culture and heritage, with tourism, public education and recreation.*

SUMMARY

- › In conjunction with its participating parties, the Meewasin Valley Authority purchased land in 1983 to begin development for what is now an international heritage site to depict the history of First Nations people in the Northern Plains
- › Officially opened in 1993, the Wanuskewin Heritage Park is managed by the Wanuskewin Heritage Park Authority, a non-for-profit organization governed by a Board of Directors consisting of both Aboriginal and non-Aboriginal members
- › The 136-hectare park includes a thematic entrance, an amphitheatre, an activity area, an extensive trail network including creek crossings, various interpretive stations, site exhibits including a Medicine Wheel, and a major interpretive/administration centre
- › Wanuskewin is Canada's longest-running archaeological dig, with ongoing archaeological work being done by the University of Saskatchewan
- › The Heritage Park shares the stories and lifestyles of the First Nations people who have gathered at this meeting place for over 6,000 years, through hands-on demonstrations, traditional cuisine, art galleries, indoor and outdoor activities and overnight Tipi wilderness camps

Saskatoon Saskatchewan

Population:

222,189 (2011)

Metro Population:

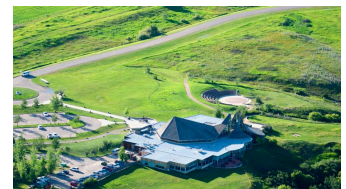
260,600 (2011)

Population Per Square Kilometre:

1,060

Land Area In Square Kilometres:

209.6

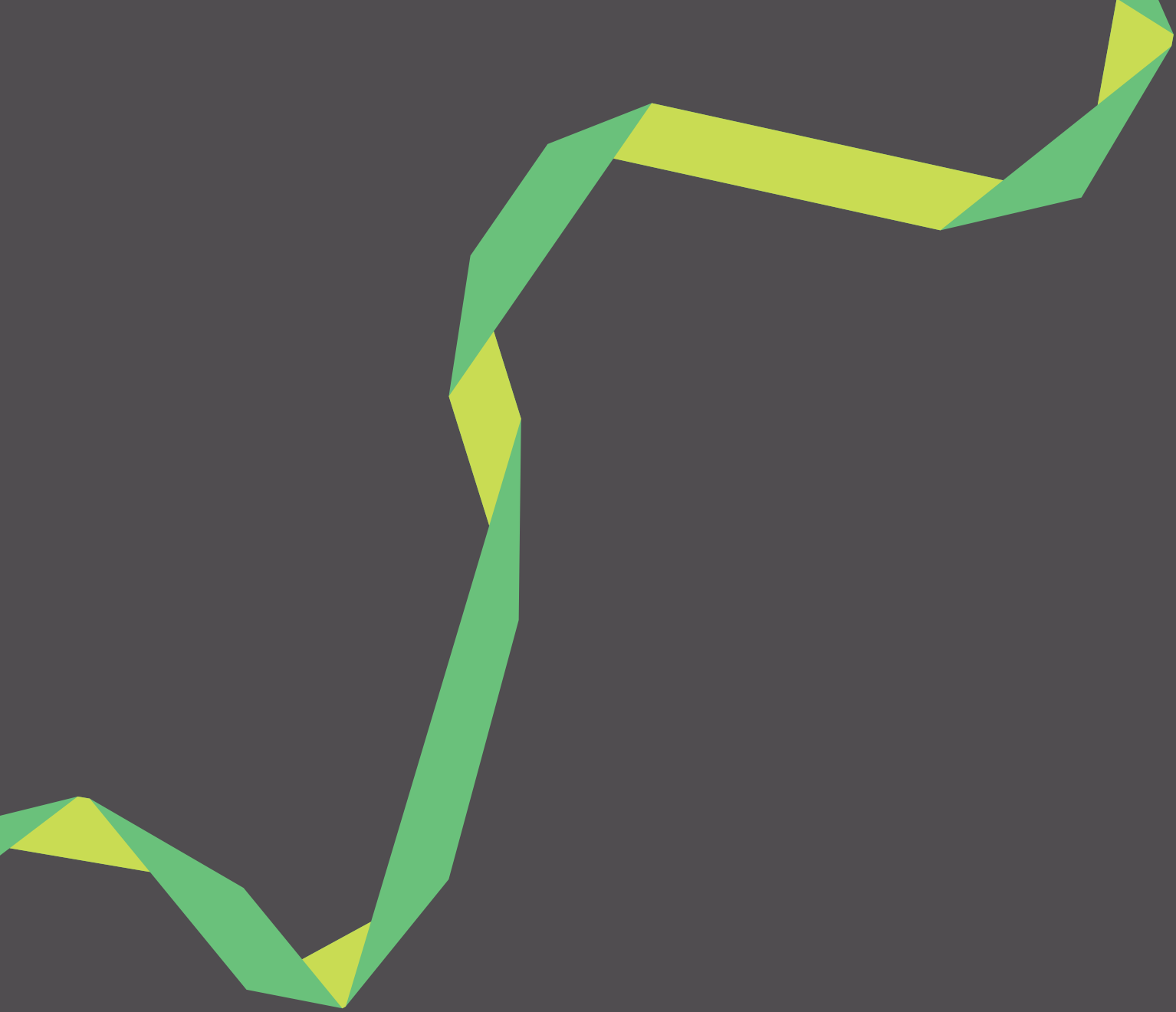


Sources:

<http://crosbyhanna.ca/project/wanuskewin-heritage-park/>

<https://wanuskewin.com/>

<http://meewasin.com/visitors/wanuskewin-heritage-park>



Design Precedents:
DESIGN ELEMENTS

EVERGREEN BRICKWORKS

Collaborative | Toronto Ontario

PROJECT RELEVANCE: *The Evergreen Brickworks is a community hub in the Don River valley in Toronto, Ontario. This retrofitted industrial building provides the community with recreational and market amenities, improving the local economy and supporting under-served communities. The landscape design and architectural improvements are adaptive and responsive to the seasonal flooding that occurs in the valley.*



MASONIC AMPHITHEATRE AND SMITH CREEK PEDESTRIAN BRIDGE

design/buildLAB | Clifton Ford Virginia

PROJECT RELEVANCE: *The amphitheatre and bridge provide community gathering and performance spaces, while creating a light touch on the landscape. The designs are reflective of the local environment.*



OTONABEE RIVER TRAIL

Basterfield & O'Brien Joint Venture
| Peterborough Ontario

PROJECT RELEVANCE: *The Otonabee River Trail design expresses the story of the town of Peterborough and re-integrates the river into the downtown. The trail includes spaces for public art, community events, performing arts, festivals and outdoor markets. There are also connections to private sector opportunities including food service and recreational opportunities.*



Sources:

<https://www.evergreen.ca/about/>

<http://www.landezine.com/index.php/2015/01/masonic-amphitheatre-and-smith-creek-pedestrian-bridge-by-designbuildlab/>

<http://www.csla-aapc.ca/awards-atlas/otonabee-river-trail>

TOMMY THOMPSON PARK PAVILIONS

Montgomery Sisam | Toronto Ontario

PROJECT RELEVANCE: *The pavilions provide visitors the opportunity to learn about the Leslie Street Spit and the volunteer ecology that has developed over the decades within the park. The architecture responds to the landscape and is small in scale.*



THE FORKS

Winnipeg Manitoba

PROJECT RELEVANCE: *The Forks in Winnipeg is a combination of passive park space, recreation amenities, and visitor attractions located at the junction of the Assiniboine and Red Rivers. With over four million annual visitors, The Forks is Winnipeg's most visited tourist destination. The site is operated by The Forks North Portage Partnership.*



WILLIAM HAWRELAK PARK

Edmonton Alberta

PROJECT RELEVANCE: *With 68 hectares of park space in Edmonton's river valley, William Hawrelak Park has the capacity to host major festivals and events while remaining a gathering space for residents and visitors alike. The park boasts the second largest outdoor amphitheatre in western Canada with 1,100 seats and the ability to host 2,900 additional spectators on the landscaped grassy slope.*



Sources:

<https://www.montgomerysisam.com/project/tommy-thompson-park/>

<http://www.theforks.com/>

RIVERWALK COMMONS

Janet Rosenberg & Studio Inc. | Newmarket
Ontario

PROJECT RELEVANCE: Janet Rosenberg & Studio created a community space outside the Newmarket Community Centre & Lions Hall, integrating an outdoor stage, event space and opportunities for winter activities such as skating.



ST. PATRICK'S ISLAND PARK

W Architecture / Civitas with IBI Group | Calgary
Alberta

PROJECT RELEVANCE: St. Patrick's Island Park integrates many amenities and activities that are well-suited to the riverside location. They include a shared-use pathway, event pavilions, picnic areas and a boat launch.



TERRA NOVA PLAY EXPERIENCE

Hapa Collaborative | Richmond British Columbia

PROJECT RELEVANCE: This playground offers a variety of play experiences, focusing on natural play. The experience of the larger landscape (including the intertidal foreshore, dykes, remnant sloughs, and past and present agricultural use) is included in the playscape design.



Sources:

<http://www.csla-aapc.ca/awards-atlas/riverwalk-commons>

<http://www.csla-aapc.ca/awards-atlas/st-patricks-island-park>

<http://www.landezine.com/index.php/2014/10/terra-nova-play-experience-by-hapa-collaborative/>

INTO THE WILD

Dmau, Openfabric | The Hague Netherlands

PROJECT RELEVANCE: *This play experience includes natural play elements and hard surfaces to allow children the opportunity to run, cycle, climb and invent games in a natural environment.*



RECREATION TRAILS MASTER PLAN

Hamilton Ontario

PROJECT RELEVANCE: *In 2016, the City of Hamilton updated its Recreational Trails Master Plan originally developed in 2007. The goal of the Plan is to guide the development of a connected, comprehensive, accessible and sustainable multi-use trails network throughout the City of Hamilton and the surrounding communities to improve health and wellness for pedestrians, cyclists and trail users. A classification system and parameters are recommended for design elements such as trail width, accessibility standards, lighting, and surfacing.*



Sources:
<http://www.landezine.com/index.php/2016/09/into-the-wild-by-openfabric-dmau/>
<https://www.hamilton.ca/sites/default/files/media/browser/2016-06-27/hamilton-recreational-trails-master-plan-2016.pdf>

EAST POINT BIRD SANCTUARY PLANT | Toronto Ontario

PROJECT RELEVANCE: *Small structures dot the landscape to create bird blinds and informational signs.*



PARK OF LUNA HOSPER Landscape Architecture and Urban Design | Netherlands

PROJECT RELEVANCE: *Public education and recreational opportunities are integrated into the ecological improvements in this decade-long park project.*



JARDIN DES PREMIERES NATIONS Williams, Asselin, Ackaoui et Associes Inc. | Montreal Quebec

PROJECT RELEVANCE: *The Jardin des Premieres Nations is a project that was created collaboratively with First Nations people for the purposes of commemoration and education.*



MEEWASIN VALLEY AUTHORITY Saskatoon Saskatchewan

PROJECT RELEVANCE: *Meewasin Valley Authority is a conservation agency created in 1979 with the purpose to conserve the cultural and natural resources of the South Saskatchewan River Valley. Programming is offered in the Beaver Creek Conservation Area to educate visitors and school groups on the natural environment. The City of Saskatoon, the Government of Saskatchewan, and the University of Saskatchewan are the three participating partners of the agency.*



Sources:

<http://www.branchplant.com/building/eastpoint.html>

<http://www.landezine.com/index.php/2011/06/park-of-luna-by-hosper-and-drftwd-office-associates/>

<https://www.aapc-csla.ca/awards-atlas/jardin-des-premieres-nations>

<http://meewasin.com/>

Design Elements: Traversing & Resting

ROCHETAILLÉE BANKS OF THE SAONE In Situ Architectes Paysagistes | Lyon France

PROJECT RELEVANCE: *The park layout provides a balanced mix of recreational and resting opportunities for park visitors. The site furniture is unique to the park and creates an identity for the area.*



SIMCOE WAVEDECK DTAH, West 8 | Toronto Ontario

PROJECT RELEVANCE: *The curvature of the wave decks create a unique pedestrian experience while improving fish habitat along the water edge.*



LA PROMENADE DE LA MER Pluram Urbatique (now Lemay) | Rimouski Quebec

PROJECT RELEVANCE: *The nautical theme of the designed pathway is a familiar cultural reference for residents of Rimouski. The design emphasizes the unique character of the area and provides access to the water.*



Sources:

<http://www.landezine.com/index.php/2016/09/rochetaillee-banks-of-the-saone-by-in-situ/>

<http://www.landezine.com/index.php/2009/08/simcoe-wavedeck/>

<http://www.csla-aapc.ca/awards-atlas/la-promenade-de-la-mer-rimouski>

RIVER FOREST ISLAND

SWA Group | Changsha China

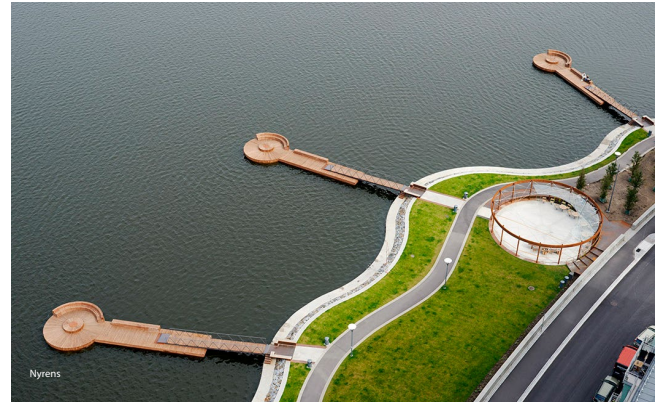
PROJECT RELEVANCE: Boardwalks and pathways meander through the riparian landscape, creating moments and experiences and generating the feeling that the water is always within reach. The site design creates an intimate experience with the river ecology.



HORNSBERGS STRANDPARK

Nyréns Architects | Stockholm Sweden

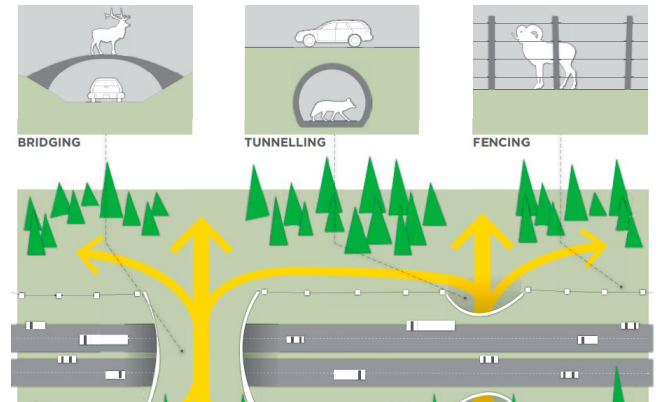
PROJECT RELEVANCE: Circular decks may be used for resting or educational opportunities. Visitors can either look out into the water or back to the city landscape.



XING (RE)CONNECTING LANDSCAPES

ARC Solutions / XING

PROJECT RELEVANCE: XING is a project that brings together a repository of wildlife crossing research and design thinking to explore solutions to improve wildlife connectivity in Toronto. The project has several partners, including the Toronto Zoo and Evergreen Brick Works, who have showcased exhibits from the project in previous years. These exhibits creatively explore new thinking, methods, and materials for safe passage.



Sources:
<http://www.landezine.com/index.php/2016/08/river-forest-island-by-swa/>
<http://www.landezine.com/index.php/2013/02/hornsbergs-strandpark-by-nyren-architects/>
<https://xing-solutions.org/about/>

SHERBOURNE COMMONS

PFS Studio | Toronto Ontario

PROJECT RELEVANCE: *The pavilion in Sherbourne Commons not only acts as a cafe and shelter, it also contains technology to filter water that is drawn into the park from Lake Ontario with UV technology.*



DALE HODGES PARK

O2 Planning & Design, Source 2 Source Inc.,
AECOM, Sans façon for Watershed+ | Calgary
Alberta

PROJECT RELEVANCE: *The project was born of the need to restore the environmental health of the area while addressing stormwater treatment opportunities for runoff from over 1,700 hectares of adjacent urban area. Once a gravel quarry, the site is now a fully integrated 40-hectare park, stormwater treatment facility, and one of the largest public artworks in North America.*



SIDWELL FRIENDS SCHOOL

Washington, D.C.

PROJECT RELEVANCE: *The Sidwell Friends School renovated their grounds in 2007 to include an outdoor living laboratory that features a green roof, terraced wetland, rain garden, and habitat pond. These are spaces where students can learn about sustainable practices. The landscape and building act as an integrated system that captures, cleans, and re-uses wastewater from the school. Native plants in the wetland, rain garden, and green roof were selected for their ability to break down pollutants.*



Design Elements: Restoration

JAMES CLARKSON ENVIRONMENTAL DISCOVERY CENTRE

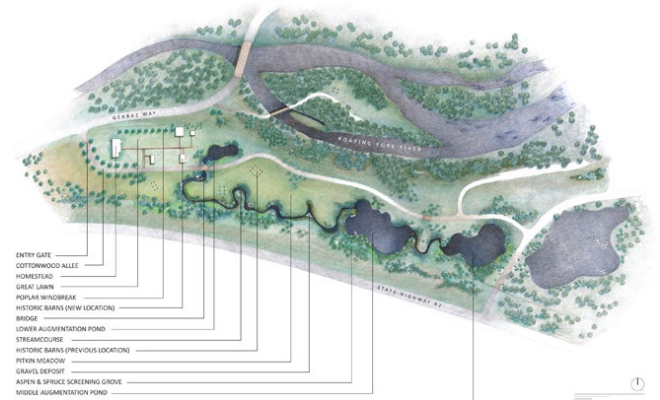
MSI Design | White Lake Township, Michigan

PROJECT RELEVANCE: This project transformed 70 acres of farmland into a refuge for native plant and animal species - a “living laboratory” for educational programming. A controlled fire was used to clear the land of dormant weeds and invasive plants before implementation. The site also incorporates LID, such as grass swales around the parking lot.

TRANSFORMATIVE WATER

Design Workshop Inc. | Pitkin County, Colorado

PROJECT RELEVANCE: A 40-acre asphalt production plant was restored into a natural water storage system through the development of streams, multiple ponds and the re-introduction of native plant species. Man-made wetlands and pond aeration systems help to increase the water quality. Industrial waste was re-used in the development of roads throughout the site.



THE WILD MILE

SOM | Chicago, Illinois

PROJECT RELEVANCE: The Wild Mile is a mile-long stretch of the Chicago River on the North Branch Canal in Chicago that is being naturalized through the introduction of modular, floating native gardens and forests. These installations re-introduce riparian and emergent landscapes, providing wildlife habitat for fish, birds, pollinators and many different animals. This project also functions as a public park, open-air museum, community classroom, and living laboratory. If successful, this system may be used elsewhere along the Chicago river and urban rivers worldwide.



Sources:

- <https://www.asla.org/awards/2008/08winners/338.html>
- <https://www.asla.org/sustainablelandscapes/transwater.html>
- <https://www.ser-rrc.org/project/usa-chicago-the-wild-mile-urban-river-restoration/>

ENVIRONMENTAL PLANNING PRECEDENTS



THE BIODIVERSITY CONSERVATION STRATEGY

Surrey British Columbia | 2014

PROJECT RELEVANCE: *This Strategy recognizes that not all land cannot be protected, particularly in urban areas where there are many demands on limited space. The Green Infrastructure Network, and the associated development permit areas, developed in this Strategy created a focused approach to ensure land is optimized for biodiversity conservation.*

SUMMARY

The Biodiversity Conservation Strategy is a framework that establishes biodiversity goals, targets, and conservation priorities for the City. The Strategy contains a set of plans, bylaws and other regulations that are used to manage Surrey's biodiversity. The goal of the Strategy is to preserve, protect, and enhance Surrey's biodiversity in the long-term by:

- › Identifying and measuring current biodiversity and habitat resources
- › Establishing management approaches for the Green Infrastructure Network
- › Setting conservation targets for natural areas and indicator species
- › Recommending policies and procedures that support various objectives in the Strategy
- › Creating a monitoring program for biodiversity indicators to measure the success of the strategy over time.

PROCESS

- › Conducted a thorough biodiversity analysis that assessed biodiversity based on the presence and condition of different habitat types. Species Guilds (groups of plants, insects, and animals that share the same habitat) were developed for the City.
- › The assessment was translated into a relative species diversity ranking which was applied to mapped natural areas in Surrey. The value of each habitat area was then modified based on size, connectivity and condition.
- › A Green Infrastructure Network (GIN) will conserve important habitat and guide future land acquisition, development, and other management actions.
- › Development Permit Areas (DPAs) are recommended for land next to the GIN. The DPAs recognize the value of the GIN and adjacent lands and require developers to work with the City to develop in a sustainable manner that protects and enhances biodiversity.
- › A Biodiversity Checklist is provided that can be integrated with the City's Sustainability Checklist to help guide development elsewhere in the urban matrix. The Checklist specifies different features (e.g. green walls, bird boxes, naturescaping) that developers and homeowners can choose from to enhance local biodiversity on private land.
- › Management Areas have been designated that recognize the unique conditions (e.g. geography, climate, land use, habitat quality/quantity) that influence biodiversity across the City.

Surrey British Columbia

Population:

518,467 (2017)

Population Per Square Kilometre:

1,638.64

Land Area In Square Kilometres:

316.4



Biodiversity Conservation Strategy



Sources:

<https://www.surrey.ca/vision-goals/biodiversity-conservation-strategy>

A HEALTHY CITY FOR ALL

Vancouver British Columbia | 2017

PROJECT RELEVANCE: *Increasingly, urban planning and public health are re-connecting to address the most pressing challenges of the 21st century city. Many complex issues are bringing the need for holistic healthy city planning once again to the fore. Planning health into our urban environment can do much to increase health and well-being for all citizens.*

SUMMARY

- › Vancouver's Healthy City Strategy 2014-2025 Phase 1 is a long-term and integrated plan that helps us think, act and work together in new ways to change the conditions that impact the health and well-being of people, places and the planet
- › The Healthy City Strategy represents the third pillar (social) in the City's long-term sustainability plan - which includes the Greenest City Action Plan (ecological) and the Vancouver Economic Action Strategy (economic).
- › Municipalities can influence these determinants of health and inequalities.
- › Developed 13 long-term goals for the well-being of the City and its people, including ambitious targets and indicators for each goal.

PROCESS

- › The first phase of developing the strategy was shaped by a review of local and international evidence and best practice, clarifying key principles and assumptions, and identifying three interconnected and overarching focus areas with 13 long-term goals and targets.

ENGAGEMENT

- › **Talk Healthy City for All**, an extensive public engagement process, and other initiatives were conducted in partnership with Vancouver Coastal Health and other stakeholders.
- › Residents were asked for their best and boldest ideas for achieving a healthy city for all. The process reached more than 10,000 people which employed a variety of formats, including an online platform, Twitter conversations, the City website, in-person workshops and Ideas Labs, and dialogues with various groups.

RESULTS

Each goal is supported by multiple targets and indicators to measure progress. Relevant goals include:

- › Feeding ourselves well: Vancouver has a healthy, just, and sustainable food system.
- › Cultivating connections: Vancouverites are connected and engaged in the places and spaces that matter to us.
- › Active living and getting outside: Vancouverites are engaged in active living and have incomparable access to nature.
- › Getting around: Vancouverites enjoy safe, active, and accessible ways of getting around the city.
- › Environments to thrive in: Vancouverites have the right to a healthy environment and equitable access to livable environments in which they can thrive.

Vancouver British Columbia

Population:

675,218 (2017)

Metro Population:

2,463,431 (2016)

Population Per Square Kilometre:

5,871.5

Land Area In Square Kilometres:

115



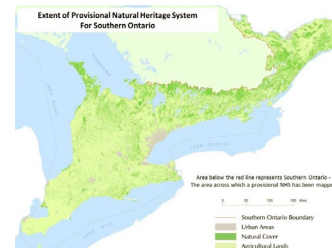
Sources:

<https://vancouver.ca/people-programs/healthy-city-strategy.aspx>

MOVING BIODIVERSITY CONSERVATION TO A LANDSCAPE APPROACH

Ministry of Natural Resources and Forestry | Ontario

PROJECT RELEVANCE: Many jurisdictions, including the Province of Ontario, have concluded that biodiversity conservation, sustainable resource management, and restoration of degraded habitats are best accomplished using an ecosystem and landscape-based approach. Increased population levels, urbanization and intensification of agriculture has placed greater pressure on the landscape and natural resources. An integrated, strategic landscape approach to biodiversity conservation has proved to be an effective and efficient method for stewardship, resource management, and planning activities.



SUMMARY

- › The approach goals are:
 - › Adopt a modern and sustainable approach to managing Ontario's natural resources over broader areas and longer time periods.
 - › Support, enable and advance ecosystem-based, landscape management approaches in Ontario over time.
- › These goals will be realized by identifying the best opportunities to develop and implement a broader landscape approach to better address the biodiversity conservation challenges we face today. Some steps include:
 - › Supporting stewardship and restoration activities that address multiple objectives and the needs of broader landscape management
 - › Finding opportunities for coordinating and aligning natural resource management programs
 - › Re-assessing the size of management units to seek economies of scale
 - › Setting management priorities based on the risk to natural resources and the public
- › Where appropriate, the approach identifies ecologically meaningful areas (such as natural heritage systems, ecosystems, watersheds, or broader species distribution – e.g. see Figure 1) and demonstrates how the project will benefit these ecological functions and structures at a higher scale
- › The provisional Natural Heritage System consists of the following mapped components:
 - › Core Areas – The least fragmented areas of natural cover that are at least 500 m wide
 - › Core Area Enhancement Zones – Opportunities to expand and enhance Core Areas through restoration, where the existing natural cover is fragmented
 - › Potential Core Areas - Opportunities to build new Core Areas through restoration, where the existing natural cover is fragmented
 - › Corridors – Areas that connect or have the potential to connect through restoration, terrestrial and/or aquatic core areas
 - › Linkages – Areas that connect or have the potential to connect through restoration, terrestrial and/or aquatic cores areas together along riparian systems
 - › Adjacent Areas of Existing Natural Cover – Slightly fragmented areas of existing natural cover that are located within 100m of any of the other components described above

Sources:

<https://www.ontario.ca/page/moving-biodiversity-conservation-landscape-approach>

INTEGRATION OF LANDSCAPE FRAGMENTATION ANALYSIS IN REGIONAL PLANNING

A statewide multi-scale case study from California, USA

PROJECT RELEVANCE: *This paper provides a systematic, quantitative, and intuitive method to analyze the cumulative impacts of multiple fragmented features across a range of spatial scales within a variety of planning units. This approach could be used for analyzing the impact of future land development scenarios, and integrated into regional planning processes*

SUMMARY

- › Administrative and watershed boundaries are used as planning units to calculate an effective mesh size for the state of California. Two spatial scales of administrative boundaries were assessed:
 - › Counties
 - › Caltrans districts
- › Six spatial scales of watersheds were used in this analysis:
 - › hydrologic regions
 - › hydrologic units
 - › hydrologic areas
 - › hydrologic sub-areas
 - › super-planning watersheds
 - › planning watersheds
- › The effective mesh size landscape metric (m_{eff}) expresses the likelihood that any two randomly chosen points in the region under observation may or may not be connected. The more barriers (e.g., roads, railroads, urban areas) erected in the landscape, the less chance that the two points will be connected. It can also be interpreted as the ability of two animals of the same species – placed randomly in a landscape – to find each other. In this study, simple rules of polygon connectivity were used to define the unfragmented patched bounded by roads, urban areas, and/or agricultural areas. This probability is converted into the effective mesh size. The more barriers in the landscape, the lower the probability that the two locations will be connected, and the lower the effective mesh size.

IMPLICATIONS FOR WILDLIFE MANAGEMENT AND LAND USE PLANNING

- › Effective mesh size serves as an analytical tool in regional planning for the following purposes:
 - › Quantitative assessments of the degree to which planned future transportation and urban development scenarios will increase landscape fragmentation within a given planning unit. This approach can also be used retroactively, to assess the rate of fragmentation in a planning unit over time. This approach also permits the quantification of the cumulative effects of several projects combined.
 - › It is possible to determine how much each category of fragmenting elements (e.g. different types of roads and urban areas), add to the total degree of landscape fragmentation.
 - › The method can be applied to identify and test future scenarios for the removal of roads or installation of wildlife crossing structures that would have the greatest positive effect on the effective mesh size.
 - › The level of fragmentation of regions can be analyzed in relation to their human population density and economic productivity and other relevant factors.

Sources:

Evan H. Girvetz, James H. Thorne, Alison M. Berrya
Jochen A.G. Jaeger, *Landscape and Urban Planning*
86 (2008) 205–218

PLANNING FOR LIVING LANDSCAPES

Perspectives and Lessons from South Africa

PROJECT RELEVANCE: *This report offers lessons based on the South African experience of systematic conservation planning to achieve integration of biodiversity priorities into municipal policies and programs.*

SUMMARY

- › Six ingredients of an operational framework to create a conservation plan:
 - › Key ingredient #1: Ask “Who wants this plan and what is it aimed at achieving?”
 - › Key ingredient #2: Pay attention to project design
 - › Key ingredient #3: Involve implementing agencies in the conservation assessment team
 - › Key ingredient #4: Involve stakeholders in a focused way to understand their needs and interests
 - › Key ingredient #5: Conduct the conservation assessment according to systematic conservation planning principles
 - › Key ingredient #6: Interpret the conservation assessment results, and mainstream the conservation planning outcomes
- › By treating all sectors as custodians of biodiversity rather than as threats to biodiversity, and involving them in developing a conservation strategy and action plan, stakeholders are able to view themselves as positive contributors to conserving biodiversity in priority areas
- › Ensuring that there is at least one locally based champion who is involved both in the conservation plan and in its implementation

Sources:

Driver, A., Cowling, R. M., & Maze, K. (2003). *Planning for Living Landscapes, Perspectives and Lessons from South Africa*. Cape Town: Botanical Society of South Africa.

DESIGNING AND IMPLEMENTING ECOSYSTEM CONNECTIVITY IN THE OKANAGAN

PROJECT RELEVANCE: *This document outlines the considerations necessary to identify and undertake land use planning for wildlife corridors and ecosystem connectivity. It also offers a general discussion of the types of regulatory tools and opportunities to permit inclusion of connectivity areas in land use plans, and other resource management planning initiatives.*

SUMMARY

- › Physical and functional links between ecosystems (called connectivity) are necessary to support biodiversity. A connected network of ecosystems supports ecosystem services, provides opportunities for animal movement across the landscape and sustains natural areas close to populated areas. Connectivity plans define core areas (also called ecosystem patches) connected by elements like landscape corridors, stepping stone corridors, linear corridors, and buffer zones.
- › Key Messages about Ecosystem Connectivity
 - › Connectivity, comprised of physical and functional links between ecosystems, is necessary to support biodiversity.
 - › Keeping native vegetation will help provide habitat for native pollinators, support their movement between habitats and support the viability of agricultural crops
 - › Planning for connectivity helps limit the impact of roads on species at risk
 - › A connected network of ecosystems supports ecosystem services, provides opportunities for animal and plant movement across the landscape and sustains natural areas close to populated areas
 - › Ecosystem connectivity tends to be reduced where people work and live (e.g. low elevations; flat terrain; areas near water)
 - › The building blocks of a connectivity strategy include ecosystem patches linked by connective elements such as landscape and linear corridors. Buffer zones to limit impacts of adjacent land use may also be added. Where corridors are not possible, providing connections between habitats for vulnerable species groups like amphibians and also avoids losses resulting from roads and vehicles
 - › Connectivity for some species can sometimes be achieved by small ecosystem patches (stepping stones corridors).
 - › Ecosystem connectivity supports the delivery of ecosystem services and particularly helps conserve riparian areas, water purification and flood control areas
 - › Ecosystem connectivity also moderates impacts of climate change on temperature, carbon dioxide storage and overall biodiversity
 - › Ecological connectivity supports genetic diversity; connectivity also supports movement opportunities that wildlife and plants require for their reproduction and survival
 - › Ecological connectivity provides a cost effective way to protect species at risk, reduce wildlife conflicts and address challenges created by man-made barriers
 - › Ecological Connectivity combines benefits for ecosystems and species with benefits for people

- › Select the best patches:
 - › Conserve larger ecosystem patches; they generally have higher biodiversity, and are rarer than small patches
 - › Conserve natural areas containing native ecosystems and species, as well as structural diversity
 - › Conserve natural areas containing distinctive features that are rare on the landscape like wetlands, streams, wildlife trees, large woody debris, talus slopes, caves, and cliffs
 - › Focus on retaining natural areas in low elevation, flatter valley bottoms as these generally are capable of supporting higher biodiversity. Natural areas like these are less common than those on steeper slopes or higher elevations
 - › Conserve aggregated or adjacent patches. If this is not possible, conserve patches separated by agricultural areas, backyards, recreation areas and other areas that retain some important features of natural areas
- › Meet the needs of species:
 - › Work with scientists, and federal and provincial government staff to manage for a variety of species with similar needs.
 - › Consider the patch size, edge and core area needs of target species
 - › Consider the capacity of species to move between patches (some can fly, some can move easily across long distances along the ground, while some move slowly).
- › Enhance, maintain or restore the quality of existing patches:
 - › Select patches in locations that will support and maintain ecological processes like pollination, predation, and seed dispersal
 - › Manage natural areas to reduce the amount of edge. This helps to limit opportunities for the invasion of exotic plants and animals into natural areas
- › Plan Strategically:
 - › Conserve natural areas that can help serve multiple functions such as recreation, hiking, flood and erosion protection, water quality and connectivity
 - › While mapping for connectivity in the community is the best way to plan strategically, do not be afraid to start small and move toward conserving connectivity

Sources:

Susan Latimer and Alison Peatt. 2014. Designing and Implementing Ecosystem Connectivity in the Okanagan. Prepared for the Okanagan Collaborative Conservation Program.

RECREATION + TRAIL PLANNING PRECEDENTS

TROWBRIDGE FOREST RECREATIONAL TRAIL MASTER PLAN

Thunder Bay, ON | 2017

PROJECT RELEVANCE: *The impetus for the Trowbridge Forest Recreational Trail Master Plan was a partnership between the Blacksheep Mountain Bike Club, Tourism Ontario, and the City of Thunder Bay. The Master Plan sets out direction to further the club's aims of becoming an International Mountain Biking Association Ride Center and to manage trail access for all different trail users of the Trowbridge Forest, which spans several different parks/public lands.*

SUMMARY

- › City Staff and the Mountain Bike Club jointly completed the site assessments and trail inventory
- › Engagement was conducted with specific stakeholders, including the conservation authority, tourism Thunder Bay, Mountain Bike Club members, and operations staff, as well as with the public. There were some public criticisms of the plan's focus on mountain biking over other trail uses.
- › Mountain biking is not permitted within the conservation area north of the Master Plan area.
- › Drainage streams were crossed at 'pitch' areas, where water was concentrated and trail development would have the least impact.
- › Shaded areas were considered better for summer trails given the additional moisture that would be retained in these areas, reducing the amount of erosion, but south facing areas were preferred for trails given they would have less snow coverage seasonally.
- › A system of control points was used to determine appropriate trail locations:
 - › Positive control points: side slopes 5-50% grade, undulating hummocks, south facing, rock bluffs, glacial erratic, vistas
 - › Negative: control points side slopes >50% grade, low grade wet areas, interior top of mesa, north facing, flood plain along river
- › 6 km of existing trails were proposed for closure in the Master Plan to address erosion and clarify the network
- › Proposed 20 km of new trails, including 15 km for mountain biking and 5 km for multi-use as well as a coordinated wayfinding system for the entire network
- › The plan uses Whistler BC's trail construction standards
- › The plan includes the construction of a bike skills park
- › The plan outlines phasing and costs for the particular trail projects contained in the plan.

Sources:

<https://www.thunderbay.ca/en/city-hall/resources/Documents/TrowbridgeForestRecreationalTrailMasterPlan.pdf>

SQUAMISH TRAILS MASTER PLAN

Squamish, BC | 2011

PROJECT RELEVANCE: *Squamish's Trail Plan includes coordination of both commuter and recreational trails across the District, in accordance with the Official Community Plan.*

SUMMARY

- › Establishes a trail classification system
 - › Primary Corridor (paved connections)
 - › Area/Collector (link neighbourhood trails to corridor trails)
 - › Neighbourhood (ease of local movement)
 - › Specified Use Trail/Area (specific recreational uses such as mountain biking, horseback riding, rock climbing access)
 - › Designated On-Street Cycling
- › Provides direction for acquiring lands for trails and collaborating with other landowners for public access to trail connections
- › Worked with District solicitor to develop a risk management framework (addressing liability on trails), which includes regular trail inspections, appropriate signage, and design for risk management. Creating a Trails Risk Management Strategy.
- › Included a stakeholder committee of community user groups, landowners, Squamish First Nation, and government agencies to guide the project, in addition to open public engagement
- › Implemented guidance from the 2007 International Mountain Biking Handbook which identifies strategies for mitigating the main conflicts between trail use, including: Environment, Wildlife, Safety/Risk Management.
- › Recommend designing most trails for multi-use but providing use specific trails as well to reduce conflicts
- › Recommend creating a Trails Maintenance program and Trails Conflict Management Program

Sources:

<https://squamish.ca/assets/b8dc70f04b/Trails-Master-Plan.pdf>

RECREATION AND LEISURE MASTER PLAN DETAILED RECOMMENDATIONS

Whistler, BC | 2015

PROJECT RELEVANCE: *This is a supporting document to the Recreation and Leisure Master Plan, which includes detailed recommendations for Whistler's trails, including its 40 km Valley Trail network, 230 km public off-road trail network, and Winter Nordic and Snow Shoe Recreational Trails.*

SUMMARY

- › Valley Trails recommendations
 - › Maintain and monitor user experience and satisfaction and improve overall experience through maintenance, signage, new connections, enhanced viewscales, and reducing grades
 - › Plan for growth of electric assist bikes
 - › Develop a trail lighting policy
- › Off-road Recreational Trails recommendations
 - › Maintain and monitor user experience and satisfaction and continue to improve the primarily non motorized trails system
 - › Create a coordinated wayfinding/signage system
 - › Work with other jurisdictions and partners to ensure more consistent quality of trails
 - › Optimize the trail network, including removal of trails that are unused or poorly maintained/constructed
 - › Strategically formalize some of the informal trail network
 - › Work with the province on a forest service road access strategy
 - › Create new trails to create continuity in the network
 - › Provide detailed topographical maps of the trail network
 - › Market the trail network through tourism channels
 - › Update the trail standards document
 - › Ensure that recreational trail planning meets trail standards and respects the natural environment

Sources:

https://www.whistler.ca/sites/default/files/related/rimp_detailed_recommendations_final_0.pdf

REGIONAL DISTRICT OF OKANAGAN SILKAMEEN REGIONAL TRAILS MASTER PLAN

Okanagan Silkameen Regional District, BC | 2012

PROJECT RELEVANCE: *The Trails Master Plan for the Regional District establishes an overall network of trails and a strategy for mitigating conflict between different types of users. The Strategy also contains guidance on how trails development should be conducted to mitigate impacts on natural areas.*

SUMMARY

- › Provided recommended trail characteristics for different users, including target grade, short pitch maximum, and turn radius.
- › Developing a trail through a National Wildlife Area, with specific additional requirements to protect sensitive areas and wildlife habitat in coordination with Environment Canada
- › Recommended creating a local Trails Advisory Committee.
- › Established a conflict management strategy: identify (the nature of the conflict), engage (with affected user groups), Manage (through trails design and construction strategies), Patrol and Enforce (for non-compliance as a last resort).
- › Separate trails into 4 categories: Non-motorized, mixed use, motorized, and cycling network. Provided
- › Contains a section on Trail Recreation impacts on the environment and their mitigation, such as:
 - › Trails over 16% grade contribute most to soil loss and wet soils amplify soil loss
 - › In a study of ORVs, horses, hikers, and cyclists (Marion & Wimpey 2007) cycling was determined to have the least impact on soil loss and ATVs the highest. Horses were comparable impact to hiking and biking.
 - › Trails should avoid creating channels of water courses (increases sediment), should use raised crossings for watercourses, and maintain riparian buffers
 - › Need to enforce users to stay on trails to avoid vegetation degradation, otherwise the primary disturbance occurs at the construction phase.
 - › Ensure disturbed areas are re-seeded immediately and trails are built through 'clean construction' to avoid invasive species introduction
 - › Wildlife impacts are greater when recreational users have dogs and from motorized recreation
 - › Wildlife viewing and photography can be most impactful if wildlife is approached
 - › Species most sensitive to disturbance should be identified and mitigation put in place to protect them and their habitat to reduce impacts (Species at Risk)
 - › Avoid development within or adjacent to Sensitive Ecosystem Inventory polygons (provincial)
- ›

Sources:

<https://www.rdos.bc.ca/assets/COMMUNITY-SERVICES/Regional-Trails/RTMP/120320-Final-MasterPlan-withMaps.pdf>

KAMLOOPS TRAILS MASTER PLAN

Kamloops, BC | 2013

PROJECT RELEVANCE: *The Kamloops Trails Master Plan lists identifies several trail linkages that are needed to improve the overall trail network. It provides a framework for trail prioritization rather than establishing specific short, medium, and long term actions. The framework is based on a series of criteria, which are used to evaluate each trail link within the plan and any future links.*

SUMMARY

- › Establishes a list of projects and budget required, but not a timeline
- › Established an evaluation framework for all trail links to guide investment priorities. The following criteria were weighted equally and evaluated as high, medium, or low for each trail link:
 - › Cost
 - › Network Contribution
 - › Practicality
 - › Accessibility
 - › Appeal
 - › Environmental Impact

Sources:

<https://www.kamloops.ca/sites/default/files/docs/city-hall/13-08-trailsmasterplan.pdf>

CLEARWATER TRAILS MASTER PLAN

District of Clearwater | 2016

PROJECT RELEVANCE: *The Clearwater Trails Master Plan provides a clear trail classification system, identifies future network connections needed, and establishes a trail priority ranking system.*

SUMMARY

- › Major component of the master plan is to link key areas in the community, the three Town Centres (main commercial areas)
- › Trail classification system was based on the BC trails classification system and three main considerations: tread width, trail grade, and trail tread surface.
- › Provides a trail priority ranking for all proposed connections. The higher the score, the higher the priority to complete. The ranking was based on:
 - › Network contribution
 - › Practicality
 - › Accessibility
 - › Recreational Appeal
 - › Environmental Impact
 - › Site Amenities

Sources:

<http://www.districtofclearwater.com/wp-content/uploads/doc-files/Committee%20Reports/Final%20Clearwater-Trails%20Master%20Plan-1.pdf>

ALGOMA TRAIL NETWORK MOUNTAIN BIKE MASTER PLAN

City of Sault Ste. Marie Economic Development Corporation | 2020

PROJECT RELEVANCE: *This Master Plan was mountain biking experience focused. The intent of the plan was to capitalize on the trail network as an opportunity for economic development and recreation potential.*

SUMMARY

- › Conducted a review of Economic Impact studies as part of making the case for bike trails as a tourism asset
- › Trail design was based on Trail User Objectives, adapted from the US Bureau of Land Management. These objectives reflect the main desires of trail users.
 - › Nature
 - › Escape
 - › Solitude
 - › Challenge
 - › Risk
 - › Fun
 - › Play
 - › Exercise
 - › Variety
 - › Connectivity
 - › Socializing
 - › Safety/security
 - › Efficiency
- › Trail design also used the International Mountain Biking Guidelines classifications for trail difficulty and their design and construction standards.
- › The overall trail system is proposed to:
 - › be laid out with connections to one main staging area/central hub
 - › provide both flow and technical trails
 - › provide for logical progression of skill
 - › minimize intersections
 - › create loops (not out and backs)
 - › avoid environmental hazards/constraints and archaeological areas
- › The plan provides a diagram of the overall distribution of trail types, with about half being beginner to intermediate and half advanced and technical trails. Providing the highest level technical trails is intended to satisfy the challenge desires of elite riders and reduce the construction of illegal trails.

Sources:

https://saultcyclingclub.ca/wp-content/uploads/2021/01/SSMTrailMasterPlanR8_Final.pdf

DISTRICT OF SUMMERLAND TRAILS MASTER PLAN

Regional District of Summerland | 2019

PROJECT RELEVANCE: *The Master Plan provides direction for closing informal trails and a six - step process for the creation of new trails that align with the Plan's adopted design standards.*

SUMMARY

- › Provides high level direction for decommissioning informal trails
- › Recommended the use of Whistler's trail building standards and International Mountain Biking Association Trail building and design standards
 - › Provides a 6-step process for establishing new trails:
 - › Group initiates idea for new trail and gets District approval
 - › Determine trail types
 - › Determine land ownership
 - › Perform environmental review and get necessary approvals
 - › Make agreements with landowners and approving bodies for trail construction and maintenance
 - › Use applicable trail standards to finalize trail design, maintenance, and provision of amenities
 - › Build trail that honours landowners, uses responsible construction techniques and fosters continued collaboration
- › Suggests the creation of a Trails Advisory Committee to guide future development and maintenance of trails

Sources:

https://www.summerland.ca/docs/default-source/default-document-library/2019-03-05-trails-master-plan-final.pdf?sfvrsn=fee8f3fb_0

RIVER VALLEY TRAILS MASTER PLAN

Town of Devon | 2015

PROJECT RELEVANCE: *Devon's River Valley Trails Master Plan attempts to balance creating greater accessibility of public trails with the protection of environmentally sensitive spaces in the North Saskatchewan River Valley.*

SUMMARY

- › Emphasizes the economic development potential of trails
- › Provides seven environmental recommendations:
 - › Ensure trail building equipment is clean before starting construction to avoid invasive species spreading
 - › Remove invasive species and restore areas with native vegetation
 - › Ongoing mapping and monitoring
 - › Annual or biannual invasive species management
 - › Detailed environmental assessments of trail alignments to identify wildlife habitat and reroute if necessary
 - › Avoid tree and shrub cleaning in spring to mid-summer to minimize impact on breeding birds
 - › Avoid addition of features that impede wildlife movement
- › Existing user-built trails were inventoried. Several were added to the formal trail network and are intended to be upgraded or rerouted to meet trail standards.
- › A simplified version of the international mountain biking association trail rating classifications was used
- › Sets out clear wayfinding and interpretive signage system and priorities and a community education and outreach strategy to communicate trail etiquette and get residents involved in trail stewardship
- › Provides a specific list of trail system priorities, general timing, and cost estimates. Overall, improvements to the existing trail network were prioritized first, prior to the creation of new trails.
- › The Plan identifies several funding opportunities, including corporate sponsorships, user group partnerships, grants, voluntary trails fund (new development contribution).

Sources:

https://devon.ca/Portals/0/Documents/Plans-Reports/2015-11-Final-River-Valley-Trails-Master-Plan-1_v1.pdf

CANMORE NORDIC CENTRE PROVINCIAL PARK SUMMER TRAIL USE MASTER PLAN

Alberta Parks | 2009

PROJECT RELEVANCE: *The Summer Trail Use Master Plan provides direction to upgrade the existing formal trails system and addresses significant informal trails that have been built in the area over time.*

SUMMARY

- › Identified two main environmental issues with current trails: erosion and wildlife conflicts
- › Includes plans to
 - › redesign a looped trail network to aid in wayfinding
 - › add new introductory single-track trails for beginners
 - › add new “freeride” and “downhill” trails for mountain bikers
 - › adjust trail alignments to accommodate wildlife and sensitive areas
 - › improve wayfinding
 - › restore formerly closed trails
 - › add new event loops for elite training
- › Part of the plan area includes a Wildlife Corridor, which closes to use from December 1 to June 15 each year

Sources:

https://albertaparks.ca/media/2741871/cnc_summer_trail_master_plan_secured.pdf

TORONTO NATURAL ENVIRONMENT TRAIL STRATEGY

Toronto, ON | 2013

PROJECT RELEVANCE: *The Toronto Natural Environment Trail Strategy is highly relevant to Edmonton, given it addresses the formalization of a primarily informal trail network to ensure the environmental protection of its ravine system. The City's new approach involves working with communities and volunteers to collaboratively steward the trail network.*

SUMMARY

The strategy is focused on protecting the natural environment while offering safe and enjoyable recreational opportunities through a sustainable multi-use trail system. Unlike other strategies, this one is solely focused on the City's 227 km of dirt/natural-tread trails (not paved paths or granular trails). The priority is on the creation of multi-use bi-directional trails, as these are the most versatile and can accommodate the needs of most user groups.

The entire network is currently informal user-built trails. These have caused damage to the urban forest and the City's previous management approach was to try and fence people out, but users would just cut holes in the fences and continue to use the trail system. Their new strategy is to formalize the network and ensure that trails are properly built and routed so that they have a lesser impact on the environment.

- › Natural environment protection is still prioritized where it cannot coexist with trails use
- › The strategy states that trails can be a means to protect and enhance natural areas, and that if planned and constructed correctly, they will:
 - › Keep users on a designated path
 - › Introduce residents to natural areas, encouraging a sense of ownership and stewardship
 - › Focus resources on natural areas where trails are being managed for invasive species removal, trail closures, restoration, and natural area expansion
 - › Increase awareness of natural environment issues through user experience and interpretive programming, and
 - › Provide for the most effective and efficient use of resources in the maintenance and management of infrastructure and natural resources, while optimizing cost/benefits

- › The City adopted the Toronto and Region Conservation Authority's trail standards and may create its own in the future
- › The City intends to create a Toronto Mountain Biking Policy, but will adopt the Parks Canada Visitor Activity Guidelines for Mountain Biking in the meantime
- › The overall network was divided into nine management zones (several in each of the five watersheds) and areas requiring additional comprehensive planning were further defined as Priority Management Areas (for short term improvements and planning) and Areas of Interest (for longer term planning).
- › There is a significant volunteer stewardship component to the strategy including:
 - › Adopt-a-trail programs
 - › Trail Stewardship Teams (led by staff and formed of volunteers)
 - › Public volunteer trail events
 - › Partnerships/Sponsorships/Fundraising Opportunities
- › There is a significant communications/marketing component of the strategy, which includes a new signage program, events, mapping, and media campaigns
- › The strategy provides specific staff resourcing needs and roles and responsibilities for each of its internal departments

Sources:

<https://www.toronto.ca/wp-content/uploads/2018/10/8f86-natural-environment-trail-strategy.pdf>

