

Toronto Ravine Strategy

Date: September 12, 2017

To: Executive Committee

From: General Manager, Parks Forestry and Recreation; Acting Chief Planner and Executive Director, City Planning Division; General Manager, Toronto Water

Wards: All

SUMMARY

Toronto's ravine system is the city's greatest green asset. The scale and scope of this urban green space system – over 300 km and 11,000 hectares – makes Toronto the envy of municipalities across the world. The Toronto Ravine Strategy is a new and inter-divisional framework for managing this precious asset as a natural, connected sanctuary essential for the health and well-being of the City.

This strategy provides, for the first time, an intentional and coordinated framework, vision and approach to management of this natural resource through a series of 20 actions under the five guiding principles: **Protect, Invest, Connect, Partner, and Celebrate**. These actions aim to guide the management of the ravines and ensure the protection of these irreplaceable lands is balanced with their use and enjoyment such that they continue to function and flourish for the next 100 years and beyond.

In a growing city, an increasing number of people rely on the ravines as their "backyards". There are also billions of dollars' worth of infrastructure – from roads to pipelines – in the ravines. The anticipated impacts of climate change, such as large scale storms, flooding and erosion will also put stress on the system. Increasing the resiliency of the ravines will, in turn, increase the resiliency of the City to face the challenges of the 21st century.

Through the application of the Ravine Strategy Prioritization Framework (Attachment 2), the City will be able to prioritize areas where protecting ecosystems, controlling erosion, managing recreational use, improving access, and meeting and maintaining accessibility standards is needed. The framework will also start to identify opportunities for collaboration with internal and external partners and will identify projects to be considered in the development of the coordinated implementation and capital plan.

The Ravine Strategy will also create a philanthropic leaders' table on ravines. The members of this table, the "Ravine Leaders" will develop a vision and framework to catalyze third party investments in the system, as well as support actions to celebrate this unique and precious asset.

During consultations on the strategy, we heard from thousands of residents, stakeholders and interest groups. The interest that the development of this strategy generated underscores how important and timely the Toronto Ravine Strategy is. Through the implementation of the actions in this strategy, the ravines will continue to support the high quality of life that the City has to offer to residents, visitors and businesses.

The next step will be to develop a comprehensive implementation framework to be presented for council approval in 2018. This plan will include work plans, timelines and deliverables for all 20 actions outlined in the strategy, as well as associated costs to fully implement the strategy.

RECOMMENDATIONS

The General Manager, Parks, Forestry and Recreation, the Acting Chief Planner and Executive Director, City Planning Division, and the General Manager, Toronto Water recommend that:

1. City Council adopt the Draft Toronto Ravine Strategy in Attachment 1 of this report.
2. City Council adopt the Ravine Strategy Prioritization Framework in Attachment 2 of this report and direct the General Manager, Parks, Forestry and Recreation, the Acting Chief Planner and Executive Director, City Planning, and the General Manager, Toronto Water, in consultation with the General Manager, Transportation Services and the Toronto and Region Conservation Authority (TRCA) to apply the Prioritization Framework in developing future capital plans for ravine-based projects, beginning with the 2019-2029 capital budget.
3. City Council direct the General Manager, Parks, Forestry and Recreation, the Acting Chief Planner and Executive Director, City Planning, and the General Manager, Toronto Water, in consultation with the General Manager, Transportation Services and the Toronto and Region Conservation Authority (TRCA) to coordinate their respective capital plans to establish an interdivisional 10-year implementation strategy and capital plan for the Ravine Strategy and report back to Executive Committee in 2018.
4. City Council direct the Director of Toronto Office of Partnerships, General Manager, Parks, Forestry and Recreation, the Acting Chief Planner and Executive Director, City Planning, and the General Manager, Toronto Water, in consultation with the General Manager, Transportation Services and the Toronto and Region Conservation Authority (TRCA) to convene a table of "Ravine Leaders" to develop a vision for philanthropic and public engagement and a framework to raise third-party investment for capital improvements within the Toronto ravine system.
5. City Council direct the Director of Toronto Office of Partnerships to identify an appropriate Toronto-based charitable organization to provide administrative and fundraising support to the Ravine Leaders, and authorize the Toronto Office of Partnerships to enter into an agreement with the identified organization on terms and conditions acceptable to the General Manager, Parks, Forestry and Recreation, the

General Manager, Toronto Water and the Acting Chief Planner and Executive Director, City Planning, in a form satisfactory to the City Solicitor.

FINANCIAL IMPACT

The recommendations in this report can be adopted and implemented within current base Operating Budget resources and the projects included in the 2017 Capital Budget and 2018-2026 Capital Plan of the involved programs.

One permanent position in the Parks service of Parks, Forestry and Recreation will be assigned to support the ravine strategy to deliver the implementation plan and manage the working groups. Through realigning workload, ravine work will be streamlined under this position, rather than distributed among a number of staff members creating specialization to accommodate the strategy.

Future capital and operating funding, arising from additional implementation plans to be developed will be presented in a future report to Council. Capital work is actively being undertaken in the ravine system and is done within approved capital budgets of multiple city programs. However, since the capital budgets of the programs do not differentiate between the portion of a capital project that may be undertaken within the ravine system, and budget from the same project that is being undertaken outside of the ravine system, a comprehensive inventory of capital costs of projects undertaken in ravines is not possible at this time. The coordination of work and planning mandated through implementation of this ravine strategy will clarify resources currently dedicated to ravine work and will inform any requests for additional future funding.

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting of June 16, 2016, the Parks and Environment Committee, in response to a presentation on the draft Ravine Strategy, requested that the General Manager, Parks, Forestry and Recreation include the following in the final report of Toronto's Ravine Strategy: a) plan for establishing and monitoring ecosystem health indicators; b) discussion of public school education opportunities; and c) a full description of the existing capital backlog.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.PE12.1>

COMMENTS

Toronto's astounding network of ravines is among the largest in the world. The system is over 300km long, and covers 17% of Toronto's land area. Yet, Toronto's Ravines are at a crossroads. They are important natural spaces to preserve and protect as the city continues to grow. Historically used as conduits for infrastructure and storm water, they

are some of the last natural refuges in the City. The pressures on the system are enormous and investment in managing their use has not kept pace with growth. Although many City divisions have roles and responsibilities within the system, and there is considerable investment planned, this strategy is the first comprehensive, city-wide vision for Toronto's ravines that will guide how investment and work can be better coordinated.

This strategy aims to ensure that the ecological health of the ravines is fully protected while realizing the potential of the ravines. Toronto's ravines are more susceptible than ever to adverse impacts from overuse, invasive species, encroachment and climate change-related storms. Through this strategy's implementation, multiple City Divisions and stakeholders will coordinate to protect, manage and celebrate these 300kms.

Toronto's ravine system includes six main watersheds — Etobicoke Creek, Mimico Creek, Humber River, Don River, Highland Creek and Rouge River. Four of these rivers have their headwaters in the Oak Ridges Moraine, connecting the city to the larger bioregional system. The ravines make up 17% of the city's land area and contain most of Toronto's remaining natural areas and environmentally significant areas, including remnants of the native landscape, such as forests, meadows, wetlands and floodplains and many varieties of plants and animals including significant species. The ravines are protected through the Official Plan policies and Provincial regulations which prohibit development, as well as the Ravine and Natural Feature Protection Bylaw which prohibits the injury or destruction of trees and filling, grading or dumping without a permit. Although they may appear to be natural spaces, many are highly disturbed areas which house highways, railways and hydro above ground, as well as oil/gas pipelines, sewer lines and telecommunication wires underground. They are legislatively complex and there are many challenges to working successfully with all the partners and agencies involved.

Challenges

Toronto is growing, with the downtown population expected to double over the next 25 years and an anticipated overall population of 3.4 million by 2041. Some of this intensification will be in proximity to the ravine system, such as the new mixed-use development proposed at Don Mills and Eglinton and Yonge and Eglinton which together will add close to 9,000 residential units. Plans for Scarborough Town Centre and Etobicoke City Centre will also add many new residents who will rely on the city's ravines for access to nature and outdoor recreation.

The ability of the ravines to convey storm and sewer water has been relied on for much of our city's history. However, with the large-scale storms that are anticipated as a result of climate change, the impacts of these storms will be greater than before, putting the ravines at risk of flooding and erosion. As we have seen with the flooding that impacted the waterfront in the spring of 2017, protecting the billions of dollars' of infrastructure that is housed in the ravines is the most cost-effective way of ensuring the system stays resilient and robust and meets the needs of a growing and densifying city.

Through consultation, residents also raised concerns regarding the difficulty of access, lack of awareness and sometimes fear of the ravines, concern for ecosystem health,

impacts from over-use, poor condition of trails, and the lack of a bold vision for the ravines.

Vision, Principles and Actions

The vision of this strategy is to ensure a ravine system that is a *"natural, connected sanctuary essential for the health and well-being of the City, where use and enjoyment support protection, education and stewardship"*.

This vision is supported by five principles to guide decision making in the ravines - **Protect, Invest, Connect, Partner, and Celebrate**. There are 20 actions that support these principles. These actions represent short, medium and long term goals and achievements and speak to both city-wide and local initiatives. The list of actions is included as Attachment 1 of this report.

1. Protect

Every stakeholder group consulted in the development of this strategy emphasized that the protection of the system should be the number one priority. Actions outlined in the strategy to protect the system include: management plans for Environmentally Significant Areas, development and implementation of best practices, expansion of partnerships, and monitoring and reporting on ecological health.

At its June 16, 2016 meeting, Parks and Environment Committee requested that the Ravine Strategy include a 'plan for establishing and monitoring ecosystem health indicators'. Monitoring ecological health involves collecting data on physical, chemical, and biological variables over time to provide information on ecosystem change. The TRCA collects data throughout its valley lands, including the ravines in Toronto, based on accepted scientific protocols and best practices. Since 2008, the TRCA has monitored and periodically reported on a system of permanent plots to track ecological trends in ravines through the Terrestrial Long-Term Monitoring Program.

Through implementation of Action 5 of the Ravine Strategy, the City will continue to work with TRCA to monitor ecosystem health. A working group on Ecological Services will be established to refine ecosystem health indicators and it will include representation from the monitoring partners.

2. Invest

Investment is key to ensuring that the ravines are safe, accessible and welcoming for residents and visitors to enjoy. Actions outlined in the strategy that support this principle include leveraging planned investment in infrastructure, developing a strategy to acquire key parcels for connections and/or buffers, and identifying important opportunities for hubs (areas for community engagement), gateways (entrances), and portals (views).

The Capital and Planning Coordination Working Group, formed to support implementation of this strategy, will work to manage and coordinate investment and timing of capital projects (such as erosion, sewer and trail works) which are delivered by

several City divisions and the TRCA. This will optimize resource efficiencies, as well as environmental protection and remediation.

3. Connect

Connecting people into the ravines must be done in a thoughtful and intentional way. If residents and visitors are not given proper access points and means to find their way around the system, further degradation of the ecology of the system will occur as people will continue to create unsanctioned trails and accesses, worsening erosion and damaging sensitive natural areas.

Actions under the principle 'Connect' include the Parks and Trails Wayfinding pilot in the Lower Don Valley, developing an implementation plan to address gaps and new connections, and, in collaboration with Indigenous communities and others, creating opportunities to honour and share stories of special and historic spaces and ways of relating to the natural environment.

4. Partner

Land in the ravines is a patchwork of residential, commercial, institutional and industrial, owned by a number of different people, public and private entities. Partnership is crucial if this strategy is to be successful. Actions under the principle 'Partner' include: building opportunities and capacity to expand the Community Stewardship program, establishing a framework to further engage volunteer groups (such as 'Friends of' groups), and working with Greater Toronto Area (GTA) municipalities and the Toronto and Region Conservation Authority (TRCA) to ensure best practices for portions of the watersheds that are beyond Toronto's boundaries.

Additionally, this report recommends the formation of a table of Ravine Leaders who will work to provide insight and advice on partnerships and public engagement as well as work to better leverage philanthropic giving with planned capital investments in the ravine system.

5. Celebrate

No other city has a ravine system like Toronto. Expansion of stewardship and celebration activities already occurring in the system is essential if we are to foster respect and understanding of this astonishing asset.

At its meeting of June 16, 2016, Parks and Environment Committee requested that the Ravine Strategy include a discussion on public school education opportunities. Currently, approximately 30,000 students use the ravines each year through formal and informal programs. Formal programs are where the City, in partnership with the TRCA and /or educational non-profit organizations, deliver educational programs to public school students. Examples include Forest Valley and Hillside Outdoor Education Centres, and Toronto Urban Studies Centre in Taylor Massey Creek. Informal programs are operated by schools or non-profits and operate outside of formal partnership agreements with the City or TRCA. While these are difficult to quantify, it is often the

schools, camps and daycares close to ravines that use them informally as outdoor learning spaces.

Action 19 proposes the development of outreach plans that identify best practices and principles (such as 'Leave No Trace') for the public schools and others. Through the implementation of this strategy, a Partnerships, Outreach and Education working group will provide opportunities for community and educational groups to work together.

Consultations

The Toronto Ravine Strategy was developed through a public participation process including an on-line survey, a workshop, an open house and ten pop-up sessions throughout the city. It drew a substantial amount of interest, demonstrating the importance of the Ravines to many different people and groups. The consultation also included meetings with newcomer, disability, aboriginal and Métis communities, the Toronto Youth Cabinet, and the Planning Review Panel. Staff also formed a Ravine Strategy Advisory Group to solicit advice and feedback from subject matter experts across many different fields and professions. The Ravine Strategy Advisory Group provided input and review of draft principles and actions over the course of the development of the strategy.

The consultation identified the need to build connections between residents and ravines, to protect and enhance its natural features and functions, and to celebrate and invest in the ravine system. More information on the consultation phase of the Ravine Strategy development is available at www.toronto.ca/ravinestrategy.

Current Approach & Capital Backlog

At its meeting of June 16, 2016, Parks and Environment Committee requested that the Ravine Strategy include a "full description of the existing capital backlog". The Capital Working Group has begun this analysis however it is difficult to precisely determine interdivisional capital spending specific to ravines. Toronto Water, Parks Forestry and Recreation (PFR), Transportation Services, City Planning and the Toronto and Region Conservation Authority (TRCA) all invest in the ravine system in through both capital and operating budgets. Often, work that happens in ravines is part of larger plans and projects such as Toronto Water's Wet Weather Flow Master Plan, Transportation Service's Trails Strategy, and Parks, Forestry and Recreation's state of good repair plan, capital, or natural environment work. It is difficult to isolate the level of investment within these projects that is directed specifically to the ravine system.

Toronto Water

Toronto Water has, and continues to make significant investments to its infrastructure in the ravine system. Projects that Toronto Water undertakes in the ravines include combined sewer overflow control works, stormwater management, stream restoration and erosion control. Toronto Water also works in ravines doing state-of-good repair projects to protect and extend the life of key infrastructure elements (such as sewer lining or bridges), service improvement projects such as basement flooding protection projects, as well as water quality improvement projects (such as Toronto Water's Don

River and Central Waterfront project). Toronto Water has allocated approximately 1 billion dollars in the approved 2017-2026 ten year capital plan on works which impact ravines and improve water quality in the City.

Parks, Forestry and Recreation

Parks, Forestry and Recreation work includes trail plans and improvements, management plans, lookouts and wayfinding as small scale green infrastructure renewal projects such as bird blinds, interpretive signage or meadow restoration. Approximately \$1M a year is allocated to this work. PFR community engagement programs – which in 2016 engaged over 5,200 volunteers – do invasive species management, attend planting events and improve the long-term sustainability of naturalized areas.

Through funding provided by both PFR and Toronto Water, PFR undertakes ravine and watercourse management work at approximately \$0.95M annually. This work clears Toronto Water outfalls in ravines of debris, removes encampments and cleans illegal dumping. It also clears debris in the city's watercourses that can accumulate along bridge abutments and potentially pose a flood risk.

In addition, PFR has allocated \$86M to projects in parks adjacent, or in ravines in the approved 2017-2026 10 year capital plan. This includes upgrades to buildings, bridges, pathways or other amenities which draw people from the street into the system and align to the strategy's actions to create hubs, portals and gateways.

Transportation Services

Transportation Services Division builds multiuse trails through the city, including in the ravines. In 2012, the Transportation Services Trails plan was approved, which will improve connectivity into, and through the ravine system.

City Planning

City Planning has also invested considerable resources over the past ten years to identify and designate Environmentally Significant Areas (ESAs) in the Official Plan and assist with developing management priorities for ESAs.

Toronto Region and Conservation Authority

Toronto Region and Conservation Authority owns much of the land in the ravines and plays an important role in management and engagement in the system. They are a critical partner whose watershed-focussed activities tie the ravines and rivers of Toronto to their headwaters north of the City. Toronto is downstream from an area undergoing unprecedented growth and change. TRCA is an invaluable link across the whole of these watersheds. They undertake work in ravines on erosion control, stream remediation and other restoration activities for both Toronto Water and PFR. Funding for this work is typically included within the capital budgets of PFR, Transportation Services and Toronto Water, as reported above.

Coordination of Capital Work

Through the implementation of this strategy, ongoing work, capital and operating budgets will be better leveraged to ensure work is aligned, where possible, to the vision, principles and actions of the strategy. It is anticipated that the timing and location of several projects will not necessarily correspond to the timing and location of priority ravine projects developed from the Prioritization Framework. For such projects, coordination of interdivisional capital projects will focus on defining integrated ravine projects, which, through the coordinated involvement of multiple divisions would deliver ravine benefits which are greater than the sum of the parts.

Ravine Strategy Prioritization Framework

Despite the investments that have been made and are planned, a higher level of investment and coordination is required if we are to preserve and protect these spaces and the infrastructure within them. Recognizing that work cannot be undertaken everywhere at once, the strategy will use the proposed framework to prioritize areas for investment. The Ravine Strategy Prioritization Framework will identify priority areas to guide future planning and budget exercises aimed at ensuring the protection of these natural spaces, while offering safe and sustainable opportunities for people to connect with, contribute to, and celebrate the ravines. Recognizing areas of demand and vulnerabilities in our ravine system can help direct management efforts. Attachment 2 outlines the methodology and criteria proposed for this analysis.

Success Story: Mud Creek

The City's Mud Creek Geomorphic Systems work demonstrates the successes that can be accomplished on a wide scale with the application of the Ravine Strategy principles. There has been a tremendous amount of intra- and inter- divisional background work and capital coordination which has fed into this project. Although the full project will take 15 years to complete, the Mud Creek project provides an example of what can be accomplished if more projects are approached in this holistic fashion, following the principles of the Ravine Strategy.

This project firstly involved rehabilitation of the Creek bed and banks which mitigate creek erosion, selective replacement of aging and even hazardous trees, some of which are invasive, with more appropriate riparian and native shrubs and trees, on a reach by reach basis and steep slope protection, using a phased approach. Elements of this ravine project have involved Parks, Forestry and Recreation, TRCA, Toronto Water and Transportation Services. This is the kind of foundational ecological and infrastructure work (represented by the strategy's principles of Protect and Invest) that must be undertaken before work to enhance experience and interface can proceed. At Mud Creek, this work will consist of enhancements of trails, and their connectivity within and into the system, improving access, wayfinding and integration into the city for this segment of the system. These improvements are represented by the principles of Connect and Celebrate in the Ravine Strategy.

A Vision for Public Engagement in the Ravines

This report recommends that staff convene a table of Ravine Leaders to develop a vision and framework for philanthropy and public engagement in the system. These leaders will provide external insight on how the City can better engage those with an interest in the ravine system. Building on the extensive engagement work that staff from the City and Conservation Authority already conduct, the Ravine Leaders will work with city staff to identify opportunities to leverage planned projects with philanthropic donations. These investments may include capital campaigns, educational and research opportunities.

Ravine Strategy Implementation Plan and interim short term actions

With approval of this strategy, planning for full implementation can begin almost immediately. Through the realignment of existing resources, staff capacity will be dedicated to developing the Ravine Strategy Implementation Plan, which will come forward to council in 2018. The Implementation Plan will include the results of the Prioritization Framework, with some identified projects, as well as a plan to improve capital coordination of existing projects. It will also include work plans, timelines and deliverables for all 20 actions outlined in the strategy, as well as associated financial impact to fully implement the strategy.

In the interim, short term actions will include the following:

- Strengthening the coordination between multiple city divisions and external stakeholders through the formation of three working groups (actions 2, 5, 6):
 - The capital working group
 - The ecosystem services working group
 - The celebration and partnership working group
- Applying the Prioritization Framework to develop future capital plans for ravine based projects (action 8)
- Developing, with the Ravine Leaders, a framework and vision to leverage philanthropic support in specific ravine enhancement projects (action 17)
- Begin coordinating capital plans of impacted divisions to leverage planned investments (action 6)
- Piloting the Toronto Parks and Trails wayfinding strategy in the Lower Don parklands (action 11)
- Preliminary ecosystem services analysis to begin to determine the market and non-market value of the naturalized parkland in the city (action 7)
- Indigenous placemaking framework to honour and share stories of cultural and historical significance (action 13)
- Management planning for ESAs (action 1)

Conclusion

Toronto's astounding network of ravines is among the largest in the world. The system is over 300km long, and covers 17% of Toronto's land area - 1.3 times the area of Manhattan. It is the heart and soul of a remarkable natural environment system that

originates north of the city and spills out of the river valleys into the city's parks, neighbourhoods and urban landscape, eventually emptying into Lake Ontario.

With population growth, new development and climate change putting increased pressure on ravines, this strategy to guide their future protection, management, use, and enhancement is critical. This strategy will mark the first comprehensive, multi-divisional, inter-agency document that will guide where, what, and who should be involved in natural space and asset management in Toronto's Ravines.

In the short term, staff will be realigned to prioritize new areas for investment, convene and support a table of Ravine Leaders, as well as develop a robust, long-term implementation plan and associated costs.

In the long term, implementation of this strategy will result in better coordinated investments in the system, new and innovative opportunities for partnership, celebration and education, creating better connections the natural environment for all residents and visitors.

At its essence, implementation of this Ravine Strategy will help navigate the fine line between protection and use, and identify and prioritize the actions and investments needed. It will help connect residents and visitor into the system, streamline capital coordination between divisions, allow the city to leverage planned investments, celebrate what we have, and, most importantly ensure that everyone can enjoy these extraordinary places for generations to come.

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ATTACHMENTS

Attachment 1: Draft Toronto Ravine Strategy
Attachment 2: Prioritization Framework