



Toronto and Region  
**Conservation**  
*for The Living City®*

**BUSINESS SYNOPSIS AND RATIONALE**  
**2017 - 2021**

# Business Synopsis and Rationale 2017-2021

## Executive Summary

Toronto and Region Conservation Authority (TRCA) *Business Synopsis and Rationale 2017-2021* outlines 33 Program Areas, organized into nine Service Areas, through which TRCA provides services to jurisdictional partners and citizens. These Program Areas are informed and shaped by TRCA's mandate as a conservation authority:

*"... to establish and undertake, in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals."*

**Conservation Authorities Act, Section 20**

Situated in Canada's most populous urban centre, TRCA programs address issues borne of expansive and sustained urbanization, changing climate, infrastructure renewal and resilience demands, and the needs of a dynamic citizenry. TRCA's mission to realize *The Living City* captures TRCA's modern operating space amidst these challenges:

*"To work with our partners to ensure that The Living City is built on a natural foundation of healthy rivers and shorelines, green space and biodiversity and sustainable communities."*

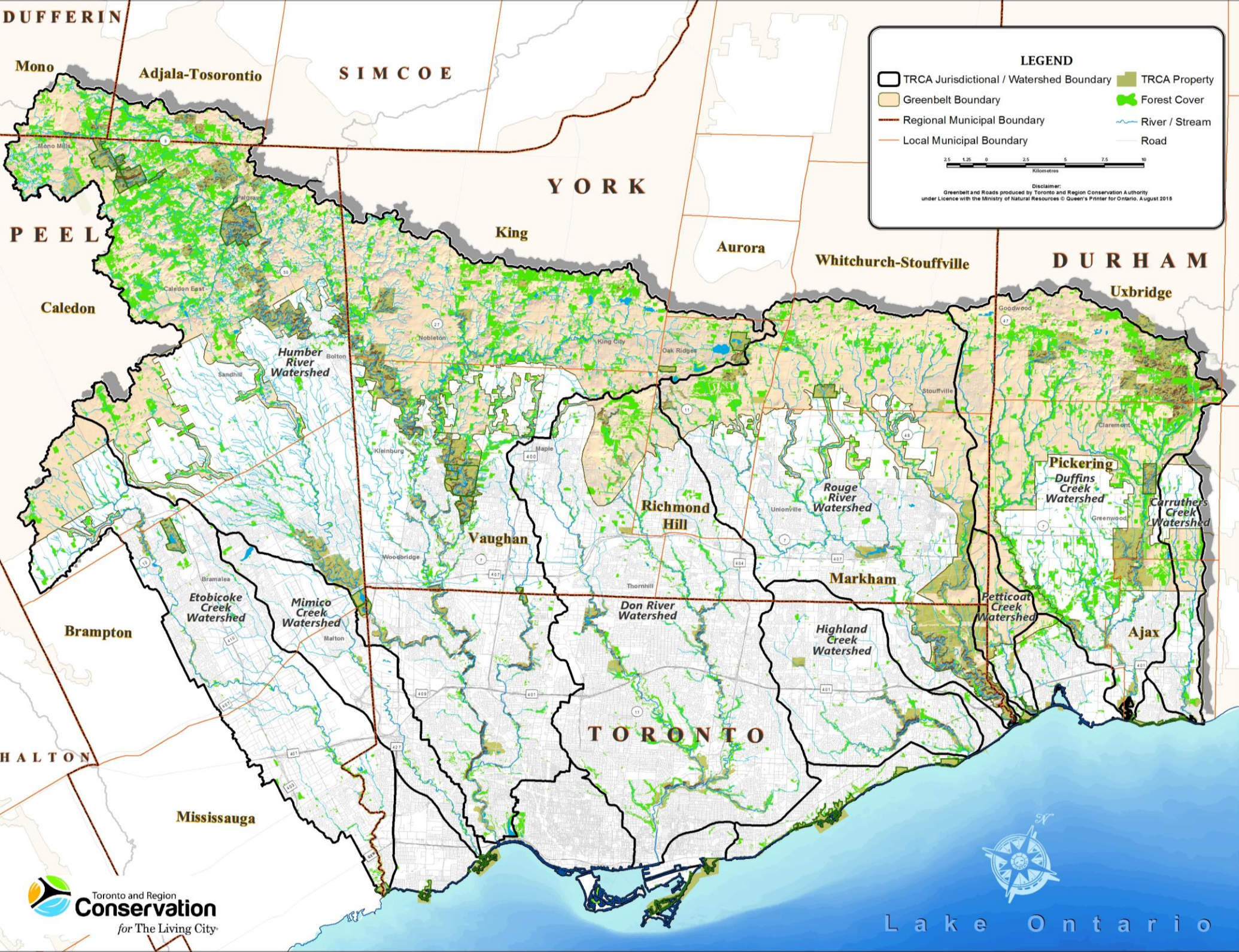
The *Business Synopsis and Rationale 2017-2021* outlines how TRCA pursues The Living City vision by offering programming that combines one or more of TRCA's five main value propositions; these include:

1. Reducing jurisdictional physical, environmental, social, and economic risk on an at-cost basis in areas of legislated responsibility or relevant fields otherwise prone to one or more types of market failure;
2. Delivering streamlined value-added and services to reduce partner or client expense, service time, uncertainty, and/or financial risk;
3. Parlaying public funding into programming that sustains Toronto region as a desirable and competitive location for socially, environmentally, and economically desirable industries and/or enhances citizen, community, and ecosystem health;
4. Maintaining and advancing environmental science, monitoring, technology, and/or best-practices in support of TRCA and partner objectives; and
5. Building productive partnerships, collaborations, and networks, in particular those otherwise unlikely to occur through traditional public, private, or non-profit avenues.

The business rationales contained in this document are a continuation of TRCA's comprehensive performance measurement and management initiative that began with the mapping of TRCA projects to Service Areas in 2014. Future iterations of this document will include enhanced financial analyses, program outcome metrics, and internal operations metrics. Later versions will also include content that demonstrates program delivery and progress against the strategic plan objectives of our partners and TRCA's own 10-year strategic plan *Building The Living City (2013-2022)*.

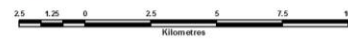
Toronto and Region Conservation is committed to creating *The Living City*, that protects and restores the integrity of the region's natural resources, provides opportunities for the enjoyment of nature and outdoor recreation, and enables sustainable city building that creates value for residents, businesses and nature. TRCA looks forward to working with our partners to realize this bright future.





**LEGEND**

- TRCA Jurisdictional / Watershed Boundary
- Greenbelt Boundary
- Regional Municipal Boundary
- Local Municipal Boundary
- TRCA Property
- Forest Cover
- River / Stream
- Road



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## ***Watershed Studies and Strategies***

This service area includes studies and strategies that provide comprehensive, integrated watershed policy development and technical direction to TRCA service areas and partner municipalities. Main program areas include reporting on the health of TRCA watersheds and Lake Ontario waterfront, analysis of the impacts of urban growth and climate change effects, and the development of strategies to maintain and improve watershed and waterfront health.



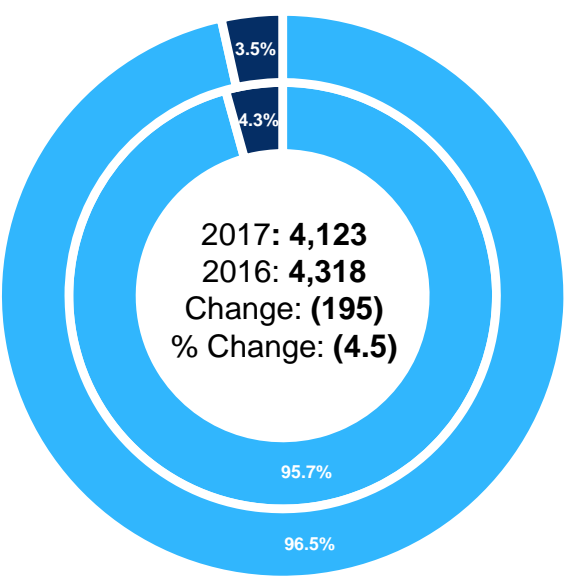
***Watershed Planning and Reporting***



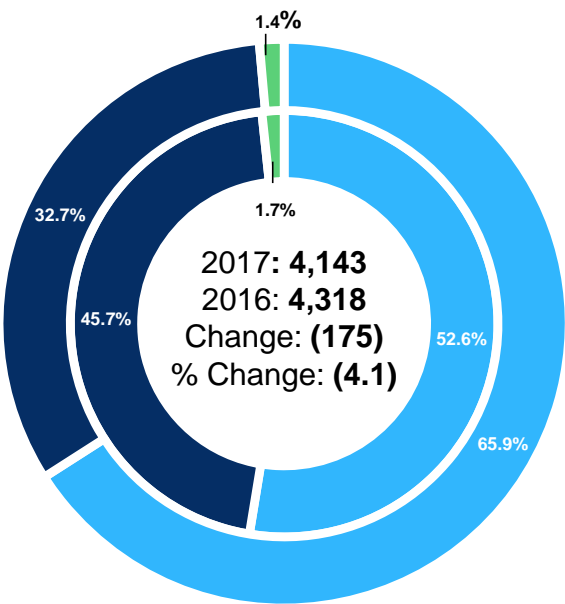
***Climate Science***

# Watershed Studies and Strategies

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA’s 2017 budgeted figures and the inner ring represents TRCA’s 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other

Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other

## Watershed Planning and Reporting

### Objectives:

- Provide integrated science-based, state-of-the-art strategies and solutions to protect and improve regional water resources, ecosystem health, and community benefits
- Integrate watershed and waterfront management with municipal planning and provincial policy directions
- Develop and deploy programs and activities to advance timely implementation of priority actions resulting from watershed plans and strategies
- Assess watershed and shoreline conditions and the outcomes of plan implementation and other management activities on an ongoing basis
- Communicate environmental and sustainability data to inform municipal plans and strategies and increase awareness and level of engagement throughout communities

### Program Features

#### *Positioning*

TRCA conducts watershed and waterfront planning in collaboration with partner municipalities to develop comprehensive strategies that protect water and natural resources, life, and property from flooding and erosion and to provide community benefits.

TRCA also undertakes specialized strategies on regional sustainability issues to advance the knowledge base for TRCA and our municipal partners. Innovative watershed programs and activities are designed to support the implementation of these strategies.

Report cards serve a data synthesis function; watershed report card and The Living City Report Card data provide TRCA and regional state of the environment reports with information regarding watershed and environmental conditions. This information assists TRCA, municipal partners, and stakeholders in understanding the outcomes of environmental and sustainability plans and strategies and supports the evolution of plans and strategies for future success.

#### *Context*

TRCA's jurisdiction includes the Humber, Etobicoke, Mimico, Duffins, Don, Highland, Rouge, Petticoat, and Carruthers watersheds as well as 67 km of Lake Ontario shoreline. This area encompasses 3,495 km<sup>2</sup> of land and 3,653.6 km of river or stream winding through 20 municipal jurisdictions. Watershed, subwatershed and waterfront plans enable TRCA to fulfil its responsibilities for natural hazard and natural resource management under the *Conservation Authorities Act* and *Planning Act*, as well as to support partner municipalities in undertaking land use planning, by assessing risks, developing strategies, and identifying implementation priorities at a cumulative and comprehensive scale. Data, analysis, and/or recommendations contained in watershed, subwatershed and waterfront plans supports TRCA and municipal policy and programs related to natural hazard and water management, natural heritage protection and habitat restoration, stormwater management design and planning, and stewardship and outreach activities.

The Government of Ontario, through the implementation of the *Endangered Species Act*, Provincial Policy Statement, and Coordinated Land Use Planning Review for the Greater Golden Horseshoe, has stipulated that watershed and subwatershed planning will be a required element of land use planning in the Toronto region and elsewhere moving forward.

TRCA began releasing report cards in the early 1990's. Watershed report cards convey the status of watershed health indicators, communicate updates in watershed management plan implementation actions, and encourage stakeholders and communities to take action where improvements are still required. In 2011, TRCA collaborated with CivicAction, municipalities, and other partners to release a consolidated regional environmental report card – *The Living City Report Card*. This document reports on regional environment and sustainability indicators addressing water, greenspace, energy, air, stewardship, and outdoor recreation.

### *Stressors and Opportunities*

Watersheds and the waterfront within TRCA's jurisdiction are under very significant pressures resulting from urban expansion and intensification, aging infrastructure, extreme weather impacts, and other emerging threats such as invasive species. In the coming years, partner municipalities will implement growth, intensification, and redevelopment and revitalization plans, and will undertake infrastructure renewal projects. TRCA will require up-to-date understanding of watersheds and waterfront conditions to ensure management directions are current, relevant, and integrated with a broad range of community sustainability objectives.

Climate change will have a significant effect on TRCA watersheds and waterfront areas. Climate change effects will cascade through watershed ecosystems and are expected to negatively affect water balance and availability, groundwater levels, stream flow, channel and bank stability, surface water quality and terrestrial and aquatic habitats. Watershed, subwatershed and waterfront planning provide a robust, integrated mechanism for analyzing and modelling the potential cumulative impacts of climate change.

The releases of watershed report cards and The Living City Report Card represent significant public communications opportunities and can be used to build public knowledge of, and/or draw attention to, specific environmental or sustainability needs or successes. Realizing this opportunity requires the effective translation of high volumes of science and data into compelling narratives and visuals capable of capturing public attention.

Success of our work in this area will broadly depend on soliciting ideas, advice and input from residents, businesses, community organizations, First Nations and other stakeholders on TRCA and partner initiatives. In light of recent trends and opportunities in civic engagement, there is a need to develop and deploy new models and tools for stakeholder and citizen involvement and citizen-based governance.

### *Funding*

Funding for Watershed Planning and Reporting is obtained primarily through municipal levy.

### *Direct Actions and Activities*

Watershed, subwatershed and waterfront plans are developed cooperatively by TRCA, partner municipalities, and a variety of stakeholders. Plan development incorporates regional and watershed data, land use projections, and demographic and behavioral trends. From the data syntheses, watershed plans advance actions and strategies to address the interconnected and interdependent management needs for natural resources, human activities, and biotic and abiotic stressors. Recommendations are advanced that seek to address issues and opportunities at the most efficacious ecological, social, and political junctures.

Report card development includes the analysis and synthesis of data collected by TRCA, partner municipalities and other partners such as provincial government agencies. Following report card release, presentations are made to municipal councils and other key stakeholders. Public opinion surveys may be conducted to inform report card preparation; these surveys enable TRCA to assess the public's level of knowledge and awareness of watershed issues and to understand attitudes or perspectives and willingness to support TRCA objectives.

Report cards and associated data analyses close the watershed and waterfront planning and implementation cycle; key management issues are identified, improvements realized by restoration and protection efforts are evaluated, and restoration and regeneration priorities are identified. This adaptive management approach enables preventative actions and reduces costs by identifying and remedying planning and/or implementation issues in a timely manner.

### *Complementary TRCA Actions and Activities*

Watershed Planning and Reporting is complemented by the following TRCA activities:

- Biodiversity Monitoring and Water Resource Science provide data, analysis and modelling that inform report cards and underpins defensible, science-based recommendations in watershed, subwatershed and waterfront plans
- Policy Development and Review liaises with municipal, provincial, and federal partners to ensure watershed plan consistency and integration with relevant policies, plans, and strategies, and ensures incorporation of watershed plan recommendations through TRCA's development planning and approvals processes
- Community Engagement ensures watershed planning processes includes elements of participative consultation and support for implementation
- Restoration and Regeneration, Community Engagement and Living City Transition program areas assist with implementation of the watershed management plan actions

### *Key Outcomes*

- Municipal partners technical and policy/planning needs are adequately supported
- TRCA conducts and advances state-of-the-science watershed, subwatershed, and waterfront planning; science/engineering/technical insights are reflected in municipal Official Plans, strategies, and other relevant internal and external documents and regulations
- Watershed Planning and Reporting, Water Resource Science and Ecosystem Management Research and Directions programs are evidence-based and informed by an understanding of the response of watershed health to management actions
- A broad range of stakeholders are consulted and engaged to incorporate diverse perspectives in the development of watershed strategies
- Citizens are inspired to engage in actions that have a positive benefit on local environmental conditions as well as their own physical and social well-being
- Indicators of watershed health improvements

### *Key Activities – 2018-2021*

- In consultation with municipal partners, develop the framework and scope of work for the next generation of TRCA watershed plans
- Initiate and complete background studies and update three priority subwatershed/watershed plans
- Strengthen connections between watershed management and management of the Lake Ontario near-shore area
- Continue to fill data gaps, apply emerging science, and maintain up-to-date understanding of watershed and waterfront conditions including responding to municipal growth and intensification objectives, climate change, and community sustainability objectives
- Develop TRCA positions on regional watershed sustainability issues such as health and greenspace
- Update and review TRCA's Urban Agriculture Strategy and associated business plan
- Complete and launch TRCA's Engagement Strategy
- Produce, release, and undertake activities to promote the watershed report cards and The Living City Report Card.

### **Outlook**

Integrated watershed and waterfront planning processes will continue to be a cornerstone in the development and implementation of TRCA programming, and in many aspects of the policies and programs of TRCA municipal partners and other stakeholders. TRCA will continue to refine watershed and waterfront plan structure and content to ensure their continued relevance. Of particular note, future iterations of waterfront and watershed plans will continue to focus on natural heritage and natural hazard issues, but will increasingly focus on sustainability, climate change resilience, and improving human health and well-being (through improved environmental health, access to greenspace and recreational opportunities). Where necessary, TRCA will also develop supplementary plans and strategies to address issues, such as terrestrial habitat and wildlife connectivity, which are related to watershed management but not best addressed at the watershed scale.



## Climate Science

### Objectives:

- Enable integrated evidence-based planning and decision making
- Pursue research opportunities with municipal, academic, and private sector partners to address knowledge and data gaps hindering policy and planning to address climate change impacts
- Identify and/or develop best-practices and policies for climate change adaptation

### Program Features

#### *Positioning*

TRCA's Climate Science program responds to information needs and knowledge gaps identified by municipal partners, other government agencies, and local stakeholders. To do so, TRCA maintains in-house applied climate adaptation expertise to support the application and integration of climate science and best-practices into both TRCA and municipal plans and policies. TRCA's pre-existing familiarity with municipal infrastructure, natural heritage, and municipal strategies allows it to engage and respond in a timely manner and offer tailored recommendations. As areas of practice in climate change adaptation begin to mature, TRCA is well positioned to facilitate the transfer of knowledge and best practice between municipalities and supporting partners.

#### *Context*

In Ontario, as elsewhere, climate impacts will likely be more severe than previously predicted. The Toronto region has already experienced a wide range of recent extreme climate events including heat waves, ice storms, severe precipitation events, windstorms, and drought. These events are consistent with climate change projections and have resulted in significant negative effects on ecosystems, water resources, critical infrastructure, economic development, and human health. Average temperatures across Peel Region, for example, could increase by 1.4°C (from 1981-2010) by 2020, 2.0°C by 2050 and 4.9°C by 2080 according to a business-as-usual modelling scenario (Source: Climate Trends and Future Projections in the Region of Peel, 2016). Addressing climate change in the Toronto region necessitates a dual strategy of aggressive greenhouse gas (GHG) reductions and adaptation actions to prevent, eliminate, or reduce risks to human life, local ecosystems, infrastructure, and private and public property.

Toronto region natural systems contain diverse climate vulnerabilities. With respect to natural heritage, the greatest climate concerns relate to the shallow unconfined aquifers, isolated and surface water-fed wetlands, transitional cold and warmwater streams, and climate-sensitive vegetation that are distributed throughout urban and natural areas. Inland ponds and the shoreline of Lake Ontario are likely to sustain more frequent algal blooms. Vulnerable flora and faunal species - and/or those that rely on these vulnerable habitats sensitive to predicted climate impacts - include brook trout, many species of amphibian, and white spruce.

Low-lying areas, particularly those in urbanized areas that are surrounded by paved surfaces conveying high runoff volume, will become increasingly vulnerable to flooding under current climate change scenarios.

Human populations are vulnerable to climate health impacts. At particular risk are seniors, children, those experiencing social isolation, individuals with chronic conditions, disabilities, or both, and socially or economically marginalized individuals.

#### *Stressors and Opportunities*

Historical climate records are no longer a reliable indicator of future conditions. Accordingly, historical design standards may be insufficient to accommodate more extreme events. Intense storm events in the Toronto region will pose risks to municipal infrastructure. Increased stormwater flows, in combination with stormwater infrastructure nearing the end of its lifecycle throughout the TRCA jurisdiction, is expected to increase risk to property and life. Better understanding of anticipated future wet weather scenarios will enable more accurate cost-benefit analysis of standard and innovative stormwater management practices. This, in turn, will enable TRCA and partner municipalities to optimize climate adaptation and risk reduction investments. Such investments also have the potential to significantly decrease future storm-related property and infrastructure repair costs.

Changes to seasonal temperature patterns and the timing, duration, and intensity of precipitation may disproportionately harm certain ecosystem components. Better understanding of local natural heritage climate vulnerabilities will enable TRCA and partner municipalities to increase proactive adaptation measures while reducing and/or discontinuing investments in projects or programs facing significant climate threats. This will increase the short- and long-term value for money of ongoing natural heritage investments.

#### *Funding*

Funding for Climate Science programming is a combination of municipal levy, and government and academic grants.

#### *Direct Actions and Activities*

TRCA in-house climate staff provide technical expertise in support of strategies, assessments and action planning for extreme weather resilience and climate change adaptation, together with a growing knowledge base from which to advise on evolving climate policies and federal/provincial objectives. These services are offered to internal TRCA programs and municipal partners.

#### *Complementary TRCA Actions and Activities*

The Climate Science program is complemented by the following TRCA activities:

- Water Resource Science and Biodiversity Monitoring provide the raw data, and analysis thereof, to support the assessment of local conditions, vulnerabilities, and early-stage climate mediated change
- Ecosystem Management Research and Directions fills knowledge gaps pertaining to best practice, target setting, planning and policy for urban ecosystems that integrate aquatic and terrestrial management objectives
- Policy Development and Review work with municipal, provincial, and federal governments to incorporate the best available science and planning practices into plans and policies
- Watershed Planning and Reporting incorporate climate science into integrated watershed and waterfront management plans to guide implementation activities at the watershed scale
- Community Transformation programs engage with various sectors in the GTA to raise awareness of climate change issues, support GHG reduction and climate resilience efforts, and build the technical and business cases for low impact development (LID) and low carbon energy solutions
- The Ontario Climate Consortium (the Secretariat for whom is hosted by TRCA) generates and/or synthesizes wide-ranging, evidence-based guidance (science to policy) for public and private sector stakeholders on climate change adaptation and mitigation

#### *Key Outcomes*

- Strategies and plans addressing climate change impacts are based on the best available evidence and supporting science
- Leading-edge strategies and best practices for climate change adaptation are successfully implemented, monitored and evaluated by TRCA and municipal partners
- Reduced vulnerability and risk to human safety, private and public property, essential structures and infrastructure and ecosystem functions and services

#### *Key Activities – 2018-2021*

- Continue to conduct climate change impact, vulnerability and risk assessments for partner municipalities
- Support TRCA partner municipalities in the development of climate change adaptation action plans
- Lead research projects that inform adaptation action plan implementation
- Ensure that understanding of climate change impacts and risks is integrated into updates to TRCA-led watershed and waterfront plans and other guidance documents (e.g., stormwater management criteria, LID guidelines, invasive species strategies, planting programs)
- Develop and evaluate key performance indicators to measure the impact of TRCA-led climate action
- Provide guidance on evolving federal and provincial climate policy and funding programs

## **Outlook**

TRCA will continue to maintain and expand its science/technical climate change expertise and services. To enhance the efficacy and uptake of these offerings, TRCA will significantly expand its efforts in climate change policy, advocacy, and regional coordination to assist public sector partners in proposed implementation of region-wide climate strategies and action plans. This may include new initiatives to accelerate and/or coordinate climate adaptation planning and implementation across jurisdictional, sectoral and institutional boundaries.

The Provincial Climate Change Strategy (2016) and Cap and Trade Program (2017) have a strong focus on advancing and funding mitigation activities in support of achieving provincial greenhouse gas reduction targets. However, the opportunity to invest in carbon sequestration through afforestation, wetland creation and other naturalization initiatives undertaken by TRCA is yet to be fully understood as the science is still emerging and will need to inform a carbon off-set protocol that supports current policies. TRCA will actively seek to participate in this scientific advancement and protocol development to determine the links TRCA restoration programs may have to available green funding opportunities and to estimate TRCA's net contribution to achieving carbon-neutral operations at TRCA and municipalities.

## ***Water Risk Management***

This service area encompasses the strategic management of water resources, based on physical sciences and applied engineering (hydrology, hydraulics, fluvial geomorphology, hydrogeology and environmental science) through an understanding of water's natural processes, features and functions within the urban landscape. Core activities include environmental and hydrometric monitoring and research; developing state of the science technologies for modeling and flood forecasting; hazard management of erosion sites, unstable slopes and flood vulnerable areas. These activities are critical to reducing risk to life and property. The entire hydrologic cycle is included in this service area, from rainfall to runoff to its outlet at Lake Ontario and all of the processes in between.



***Water Resource Science***



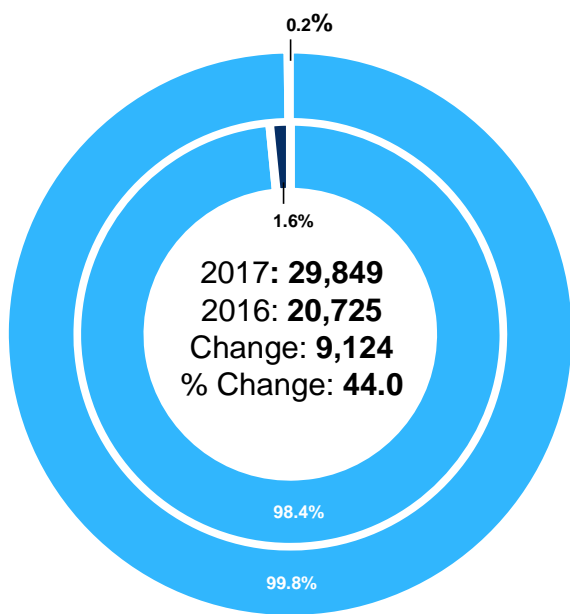
***Flood Management***



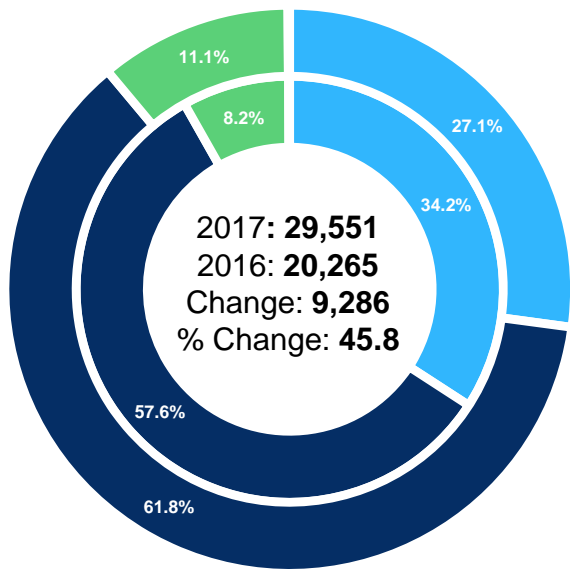
***Erosion Management***

# Water Risk Management

Revenue Sources



Expenses by Object



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Revenue Sources

- Government Funding
- TRCA Generated
- Other



Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other





## Water Resource Science

### Objectives:

- Enable science-based planning, monitoring, and decision making
- Enable identification and implementation of best-practices
- Enable evidence-based program design
- Meet data needs and requirements of municipal, academic, and private sector partners

### Program Features

#### *Positioning*

The *Conservation Authorities Act*, Section 21(a) assigns TRCA a mandate “to study and investigate the watershed to determine a program whereby the natural resources of the watershed may be conserved, restored, developed and managed”. To this end, TRCA maintains research, monitoring, and data analysis capabilities to meet internal and municipal partner data requirements in a manner that maintains intellectual property, data integrity, and cost-effectiveness. TRCA may offer free, and/or fee-for-service, data collection, sharing, and/or analysis for projects in which it is actively involved.

TRCA has conducted (and continues to conduct) research and method validation for Low Impact Development and stormwater management pond (SWMP) cleanout and retrofit technologies. As a result, TRCA holds unique local competencies in SWMP cleanout practices and offers this service to municipalities on a primarily fee-for-service basis. When bundled with habitat and/or public greenspace enhancements, TRCA’s offerings provide economic and environmental value-added services at low marginal cost.

#### *Context*

Many TRCA Service Areas - including Water Risk Management, Regional Biodiversity, and Watershed Studies and Strategies – require high volume data collection and analysis to develop and legitimize plan and policy development. TRCA undertakes its own data collection activities because the scope and scale of data collection, the need for known and standardized QA/QC and on-call expertise, and the applied use of TRCA landholdings, render the use of consultants inappropriate and prohibitively expensive. In-house data collection is also more easily and responsively adapted to evolving needs.

Approximately 61% of TRCA’s jurisdiction is urbanized or urbanizing. Accompanying increases in surface hardening and stormwater collection through grey infrastructure diverts water flows away from natural features such as wetlands and groundwater recharge zones. Low Impact Development (LID) technologies offer alternatives to grey infrastructure and provide an opportunity to reduce negative outcomes associated with urbanization. Adoption and implementation of LID technologies, however, are currently hampered by policy barriers related to performance validation as well as by high implementation costs associated with early stage commercialization.

TRCA’s jurisdiction contains approximately 995 stormwater management ponds, the life expectancy of which spans from eight to 12 years without major maintenance. The cleanout and/or retrofit of a SWMP typically costs approximately \$300/m<sup>3</sup> of sediment requiring removal (or ~ \$350,000/SWMP) and can pose unique construction and environmental complications.

#### *Stressors and Opportunities*

Water Resource Science provides the empiric and theoretical foundation for many TRCA activities. The loss of comprehensive and/or sustained data collection could threaten the legitimacy of TRCA plans and recommendations.

Changing climate and weather patterns in the Toronto region will result in more frequent and intense storm events. During a rain event, the “first flush” of stormwater over impervious surfaces contains a significantly high concentration of pollutants. LID measures can detain and treat flows of highly contaminated stormwater headed for local waterways, allow for onsite contaminant reduction and groundwater recharge, and protect nearby natural features reliant upon surface and/or groundwater inflows. Provided they can be rendered increasingly cost-effective and applied at scale, LID technologies pose the opportunity to mitigate the negative hydrologic impact of urban surface hardening.

Many SWMPs within TRCA's jurisdiction are operating at reduced capacity and require maintenance or retrofit to continue to meet design objectives. TRCA's assessment of SWMP cleanout practices have led to offerings tailored to local climate, sediment, and hydrologic conditions. TRCA's collaborative fee-for-service model provides municipalities with cost-effective, low-risk services to meet SWMP maintenance needs as they arise.

#### *Funding*

Water Resource Science is funded through municipal levy as well as federal and provincial funding. Agreements with environmental analytical laboratories at the Ontario Ministry of the Environment and Climate Change and City of Toronto laboratories provide significant cost mitigation by performing sample analysis on an in-kind and/or at-cost basis.

#### *Direct Actions and Activities*

TRCA maintains physical and intellectual assets – including 320 monitoring stations – required for assessing hydrology, river hydraulics, water quality, fluvial geomorphology, and hydrogeology across the jurisdiction. TRCA's comprehensive data collection and analysis capabilities increase standardization, reduce risk, and ensure predictable and cost-effective operation. Economies of scale are realized by centralizing and sharing data between programs including source water protection, stormwater management, and hydrology and floodplain mapping.

TRCA undertakes research to determine the effects of traditional stormwater management and LID infrastructure on local natural features, runoff quantity, and quality. These data are used to inform sustainable community design parameters, inform planning and permitting reviews and criteria, and protect natural features such as wetlands. This last consideration holds considerable significance for individual landholders for whom the aesthetic and recreational values of natural features offer a property value premium.

As requested and funded by municipalities, TRCA conducts stormwater management inventories, pond clean-outs and retrofits. To date TRCA has conducted an average of three clean-out/retrofits per year; it is anticipated that this quantity will remain stable or increase in coming years. Cleanout and retrofit initiatives restore stormwater management pond capacity and improve physical and chemical water quality parameters, thereby reducing flood and pollution risk.

#### *Complementary TRCA Actions and Activities*

Water Resource Science is complemented by the following TRCA activities:

- The Biodiversity Monitoring program collects data that provide ecological context to physical/chemical data collected by the Water Resource Science program
- Watershed Planning and Reporting, and Planning and Development Review identify future watershed scenarios and outline current and future data needs

#### *Key Outcomes*

- Plans, criteria, and recommendations are based on defensible data and supporting science
- Defensible expert advice and best practices services are provided to internal, municipal, and private sector partners
- Data sets are of sufficient extent and quality to be utilized by academic research partners and published in peer-reviewed publications

### *Key Activities – 2018-2021*

- Finalize flood management guidelines and provide training and technical support to staff, municipal partners, provincial agencies and the building industry
- Complete stormwater pond inventory and prepare maintenance plans
- Undertake stormwater and Low Impact Development retrofit projects in partnership with local municipalities
- Initiate and finalize major update to Low Impact Development (LID) Guidelines in collaboration with partner conservation authorities and provide training and technical support to staff, municipal partners, provincial agencies and the building industry
- Continue long-term Regional Watershed Monitoring to add necessary data and to track changes within watersheds and throughout the Toronto region

### **Outlook**

TRCA will intensify investigation of the impacts of urban development and climate change on flood risk, groundwater resources, erosion, and water quality in TRCA watersheds through advanced modelling and monitoring. In concert with partner municipalities and the provincial government, TRCA will also seek to develop innovative stormwater management strategies that fully address climate change and urbanization impacts.

## Flood Management

### Objectives:

- Prevent, eliminate or reduce the loss of life and property due to flooding
- Protect and regenerate natural systems to reduce frequency and severity of flooding

### Program Features

#### *Positioning*

The *Conservation Authorities Act* (1946) grants conservation authorities a mandate to reduce the risk to life and property from flooding. As a result, TRCA provides municipalities and citizens with comprehensive flood risk identification, warning, and mitigation services.

#### *Context*

In 1995, the Minister of Natural Resources (now Minister of Natural Resources and Forestry) delegated natural hazard responsibilities to conservation authorities. This delegation included flood plain management, hazardous slopes, Great Lakes shorelines, unstable soils and erosion - all of which are now encompassed in Section 3.1 "Natural Hazards" of the *Provincial Policy Statement* (2014). In this delegated role, conservation authorities are responsible for representing the "provincial interest" on natural hazards.

The 18 upper and lower-tier municipalities within TRCA jurisdiction contain 15 provincially designated Special Policy Areas (SPAs), and 43 Flood Vulnerable 'clusters'. These clusters are historical flood damage centres or neighbourhoods that have a high concentration of Flood Vulnerable Areas (FVAs) - buildings or roads within the regulatory floodplain. At last count, there were over 6,800 FVAs, encompassing over 36,000 people, within TRCA floodplains. Utility infrastructure and major transportation routes including the DVP, 401, and GO Transit lines are also at risk..

TRCA owns and manages flood control infrastructure to manage and mitigate floodplain and/or erosion risk; this inventory includes 11 dams, five of which were constructed for flood control, and 15 other flood control structures that include dykes and channels that reduce flood risk in flood vulnerable areas. These dams and flood control structures reduce flood risk to residential homes, commercial areas, transportation corridors and other critical infrastructure.

#### *Stressors and Opportunities*

Climate predictions for the Toronto region point to more extreme weather patterns including more frequent and intense rainfall events. Stormwater runoff continues to be exacerbated by ongoing development and urbanization practices that incorporate inadequate stormwater controls. Collectively, these conditions will place additional loading on existing flood infrastructure whose capacity is already limited as it approaches its service life. Ensuring flood infrastructure is able to meet both existing and future wet weather events is critical to managing risk to property and life. One or both of the cost of flood remediation works, and/or the attendant risks of flood related disruptions to society and commerce, are expected to increase.

The renewal of flood and stormwater infrastructure – in particular of stormwater conveyance channels/systems - poses a significant opportunity to apply natural design standards to reduce stormwater intensity, increase resilience to wet weather events, improve runoff water quality, and create or enhance riparian habitat and aquatic communities.

A robust Toronto region real estate market continues to prompt applications for development including intensification in SPAs and FVAs. The approval of these developments has the potential to compound flood risk, increase the impact of flood events, and entrain liability questions.

#### *Funding*

Funding for Flood Management is obtained primarily through general and municipal levy. Matching dollars (1:1) for specific projects are obtained through the Ministry of Natural Resources and Forestry Water and Erosion Control Infrastructure (WECI) program.

### *Direct Actions and Activities*

TRCA commissions and maintains floodplain mapping studies, and the associated hydrology and hydraulic models. These studies identify the regulatory floodplain, that is, the flood hazard area, within the TRCA jurisdiction. Currently, TRCA maintains approximately 500 floodplain map sheets resulting in the regulation of 14,300 ha of flood prone areas. TRCA staff continually maintains, updates, and expands the floodplain mapping data set to corresponding municipal needs and objectives, including Official Plan updates, to ensure our municipal partners have the most up to date and current flood information. TRCA is also currently undertaking an update of the FVA inventory.

TRCA maintains and operates a Flood Forecasting and Warning Network composed of 20 stream gauges and 12 precipitation gauges; all gauges have alarms that provide TRCA Flood Duty Officers with early indicators of flood potential. This comprehensive remote rainfall gauging network spans TRCA's jurisdiction and provides real-time river water levels and rainfall data to TRCA's Flood Forecasting and Warning Centre. When wet weather or other hydrological events (i.e. thunderstorms) pose a threat to citizens, infrastructure, or property, TRCA Flood Duty Officers alert relevant public response agencies and issues appropriate warning messages to the public.

Flood control infrastructure managed and maintained by TRCA mitigates the volume and intensity of stormwater flows reaching vulnerable areas. The Claireville and G. Ross Lord dams retain water flows upstream of highly populated areas of the lower Don and Humber rivers, respectively. During low flow periods the dam's reservoirs provide baseflow quantities sufficient to meet aquatic wildlife and habitat needs in the lower river stretches.

TRCA Flood Management program conducts extensive data collection, flood modelling, and plan development to mitigate flood vulnerability and steer development outside of flood and erosion hazard areas. Intense and sustained rainfall conditions nonetheless occasionally overwhelm system capacity and result in damage. In such circumstances TRCA provides at-cost engineering and construction services to municipal partners through Restoration and Infrastructure; TRCA service delivery focuses on expedited repair, reduced financial risk to municipal partners and, where appropriate, enhanced aesthetic or natural features.

### *Complementary TRCA Actions and Activities*

Flood Management is complemented by the following TRCA activities:

- Erosion Management initiatives identify and remediate priority erosion sites
- Planning and Development Review initiatives direct development away from the floodplain
- Stormwater management initiatives mitigate runoff impacts from urban development
- Climate Science research and modelling initiatives enable preparation for future climate scenarios

### *Key Outcomes*

- Reduced risk to human safety
- Reduced risk to private and public property
- Reduced risk to essential structures and infrastructure
- Improved aquatic habitat

### *Key Activities – 2018-2021*

- Continued investment in the real-time monitoring network, ensuring the allocation of resources towards highly flood vulnerable areas, together with updates to the flood monitoring website to provide enhanced reporting of real-time conditions
- Use of best practices and updated technology while regularly updating floodplain maps, including the use of two-dimensional hydraulic models where applicable
- Enhancements to the flood forecasting and warning program through the development of better now-casting models, decision support tools, and the use of Incident Management System to ensure interoperability with municipal partners
- Continued operation, maintenance and inspections of TRCA dams and flood structures, includes implementation of major capital projects to repair deficiencies and ensure structures are safe and functioning at the required level



- Outreach programs to educate our partners and the public on flood risks and foster a culture of personal preparedness
- Scoping and feasibility studies, along with design support (to the limit of available funds) for flood remedial capital works projects, with a focus on Special Policy Areas (i.e. Lower Don, Downtown Brampton, Rockcliff SPA, Dixie/Dundas, Spring Creek)

**Outlook**

Flood Management will continue to be responsible for producing long term plans for the sustainable management of flood risk to minimize impacts due to riverine flooding on life and property.

## Erosion Management

### Objectives:

- Prevent, eliminate or reduce the risk to life and property from flooding, erosion and slope instability
- Encourage the protection and regeneration of natural systems

### Program Features

#### *Positioning*

The *Conservation Authorities Act (1946)* underlies TRCA's mandate to reduce risk to life and property from erosion hazards. Accordingly, TRCA offers comprehensive and integrated erosion identification, assessment and remediation services (collectively "erosion management") to municipal and provincial partners and private property owners. Erosion works are frequently bundled with habitat and/or public greenspace enhancements to achieve aesthetic, environmental, and economic gains at low marginal cost. These enhancements, combined with the ability to offer streamlined environmental assessment and permitting services, make TRCA's offerings unique in the delivery of both economic and environmental value-added services.

#### *Context*

In 1995, the Minister of Natural Resources (now Minister of Natural Resources and Forestry) delegated natural hazard responsibilities to conservation authorities. This delegation included flood plain management, hazardous slopes, Great Lakes shorelines, unstable soils and erosion, all of which are now encompassed in Section 3.1 "Natural Hazards" of the Provincial Policy Statement (2014). In this delegated role, conservation authorities are responsible for representing the "provincial interest" on natural hazards.

TRCA's jurisdiction spans nine watersheds that contain several major ravine systems and stretches approximately 67 kilometres (km) along the Lake Ontario shoreline. Of land within TRCA's jurisdiction, 4,124 ha (or ~1.6%) is owned by TRCA to mitigate floodplain and/or erosion risk; this area represents a highly conservative estimate of erosion vulnerable area within TRCA's jurisdiction. To manage and mitigate flood and erosion within a highly urbanized area, TRCA owns and maintains an inventory of more than 500 erosion control structures that provide protection for pathways, roads, bridge abutments, sewer infrastructure, green space and private property.

#### *Stressors and Opportunities*

There is scientific consensus that climate and weather patterns in the Toronto region will yield more intense storm events with attendant risks to municipal infrastructure. Stormwater runoff from such events will be exacerbated by ongoing development and urbanization practices that incorporate inadequate stormwater controls. Increased stormwater flows, in combination with stormwater infrastructure that is nearing the end of its lifecycle throughout the jurisdiction, is expected to dramatically increase risk to property and life. As such, the costs of erosion maintenance and remediation are anticipated to increase considerably in the future.

The expertise of TRCA's Erosion Management Program is recognized and accessed by several partner municipalities and other conservation authorities; TRCA now enters into agreements with both groups to assist with projects in which it holds expertise. Through such opportunities, TRCA is enhancing already strong partnerships and reducing project cost and uncertainty for municipal partners for works undertaken outside TRCA's jurisdiction.

#### *Funding*

Funding for Erosion Management is obtained primarily through municipal levy and special capital projects. In certain circumstances, partial or full cost recovery (typically \$10K - \$100K per property) will be collected from private landowners when an alternate agreement cannot be reached.

#### *Direct Actions and Activities*

TRCA monitors existing erosion control structures and known hazard sites on public and private property. New erosion control works are typically planned in accordance with the Class Environmental Assessment for Remedial Flood and Erosion Control Projects (amended 2013) or Class EA (the approved process for erosion projects undertaken by conservation authorities).

A condition assessment and priority ranking of all hazard sites and existing structures is maintained and updated annually or as conditions require (such as following a significant weather event). These priority rankings provide the rationale for TRCA's annual and long-term work plans for erosion control maintenance and remedial works.

#### *Complementary TRCA Actions and Activities*

Erosion Management is complemented by the following TRCA activities:

- Planning and Development Review and floodline mapping initiatives direct development away from areas vulnerable to erosion and communicate risks to existing property owners and seeks to mitigate existing hazards to private land
- Climate Science research and modelling initiatives offer insight and enable preparation for future climate scenarios
- Stormwater management initiatives promote the reduction of runoff which is known to exacerbate flooding and erosion

#### *Key Outcomes*

- Reduced risk to human safety
- Reduced risk to essential structures and infrastructure
- Reduced risk to safety and marine vehicles from sedimentation
- Improved terrestrial and/or aquatic habitat

#### *Key Activities – 2018-2021*

- Conduct annual and post-storm monitoring of TRCA and partnering priority sites to generate a prioritized list of maintenance and remedial works to be undertaken in 2018 and beyond
- Continue the planning, design and construction of maintenance and remedial projects as identified in 2016 on a priority basis, to the limit of available funds, including Class EA projects

#### **Outlook**

The Erosion Management Program is anticipated to continue in its present form. As noted, the scope of the program is expanding to serve as a source of expertise to conservation authorities in adjoining jurisdictions on a cost-recovery basis. The scale of the program may also increase as weather patterns become more volatile and rainfall events intensify. TRCA's Erosion Management Program is capable of adapting to these circumstances; the business model is readily scalable as works undertaken each year are bounded only by available funding.

## ***Regional Biodiversity***

This service area includes programs, projects and activities that together create a comprehensive and integrated approach to regional biodiversity and ecosystem management. Main activities include monitoring of ecological conditions and ecosystem trends, ecosystem planning and research, habitat restoration and regeneration, and management of existing regional biodiversity. The result of this work demonstrates the benefit biodiversity provides to community and human well-being.



***Ecosystem Management Research and Directions***



***Biodiversity Monitoring***



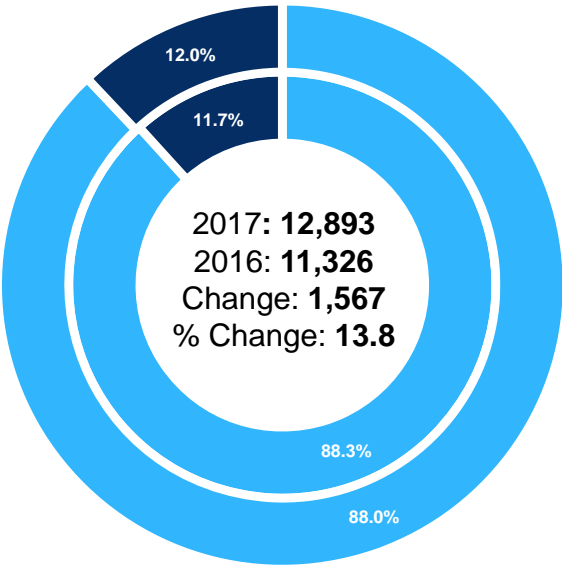
***Restoration and Regeneration***



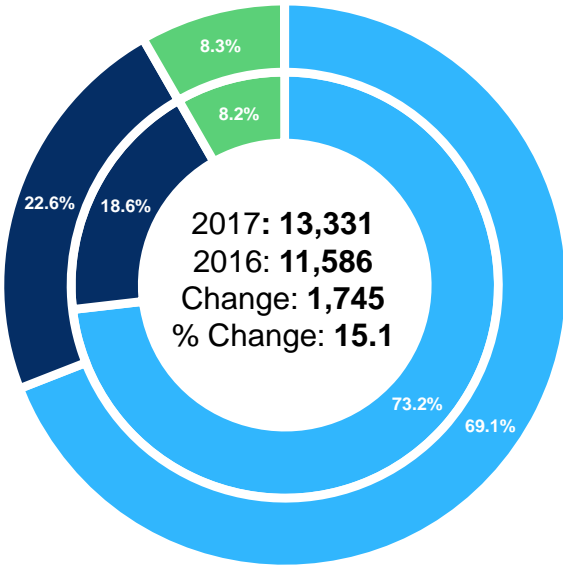
***Forest Management***

# Regional Biodiversity

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA’s 2017 budgeted figures and the inner ring represents TRCA’s 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other

Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other



## **Ecosystem Management Research and Directions**

### **Objectives:**

- Identify and address urban ecosystem health data, science, policy, and practice deficiencies
- Support the development of objectives, targets and metrics for ecosystem health
- Enable science-based planning and decision making
- Identify best-practices for urban ecosystem management
- Improve watershed health

### **Program Features**

#### *Positioning*

TRCA's Ecosystem Management Research and Directions program responds to information needs and knowledge gaps identified internally or by municipal partners. Pre-existing relationships with academic, non-profit, and private sector partners are maintained and, where favorable, TRCA enters into partnerships to address overlapping research needs and interests. Use of this research partnership model increases and diversifies external funding and human capital for TRCA-initiated and/or managed research and enables TRCA to meet high priority research needs in a cost-effective manner.

TRCA maintains in-house expertise in applied aquatic and terrestrial ecology and green infrastructure that is relevant across the urban-rural gradient. In addition to ensuring value creation and capture in partnership arrangements, TRCA's on-demand internal expertise allows independent research in support of internal, municipal, provincial, and federal program and policy development. Internal capacity also ensures the early inclusion of integrated watershed management principles and systems thinking in knowledge generation, planning and policy development, and practical application.

#### *Context*

An extensive body of academic literature exists on the ecological targets, methodologies, and best practices for urban, near-urban, and rural ecosystem management. This literature has identified habitat quantity and quality - including how well habitat is connected - as critical factors in climate change resilience, biodiversity protection, and ecosystem health preservation. Many conceptual frameworks, best management practices, and technical methods from the ecosystem science literature are transferrable to the Toronto region; interpretation at the watershed scale, however, is critical and requires the development of customized ecological targets and management approaches applicable to specific local and regional contexts.

#### *Stressors and Opportunities*

In the past, TRCA has worked with municipal and provincial partners, academic institutions, and other stakeholders to define ecological targets and fill associated information gaps. Many ecological targets for terrestrial and aquatic ecosystems, however, remain outstanding; existing aquatic and terrestrial objectives have yet to be integrated to specifically reflect, and robustly incorporate, Toronto region natural systems information. As a result, many important ecosystem interrelationships may be inadequately quantified and understood at the local level. These data gaps create barriers to the optimization of TRCA policy and planning processes and the ability of TRCA and our partners to manage Toronto region ecosystem structure and function.

Climate change is expected to yield a warmer and more variable southern Ontario climate with increased extreme weather events such as droughts and storms. These changes will stress ecosystems and are expected to negatively affect water balance and availability, groundwater levels, stream flow, channel and bank stability, surface water quality, and terrestrial and aquatic habitats. As a result, there is a need for climate change considerations to be explicitly incorporated into new and existing ecosystem management objectives, targets, and actions. On the ecological side, actions are expected to include creating and increasing redundancies in habitat quantity, quality, distribution, and connectivity. Likewise, with respect to hydrology, there is a need to better understand and manage how water flows across landscapes between terrestrial and aquatic systems to maintain ecosystem structure and function. Understanding and establishing integrated spatiotemporal habitat and hydrological targets represents a strong opportunity to increase climate change resilience and reduce ecological risk.

Both greenfield development and urban retrofit land use changes will continue to have substantial impact on ecosystem management. The careful consideration of ecological objectives during the planning, design, and review of these urbanization initiatives provides an opportunity to utilize the development planning process as a mechanism to realize ecological objectives and targets.

The Toronto region is home to substantial academic and government research activity and capability. With adequate commitment and sustained funding, few barriers are anticipated to assembling credible research teams capable of addressing the current knowledge gaps and supporting the program outcomes and activities. This includes the development of defensible ecological targets for the Toronto region.

The continued emergence and acceptance of the Ecohealth concept - the recognition and quantification of ecosystem associated health benefits – will continue to provide TRCA with opportunities to partner with stakeholders in the public health and medical fields to advance shared objectives.

### *Funding*

Funding for ecosystem management research is obtained primarily through municipal levy and government and academic grants. Where appropriate, in-kind funds for primary research are secured through research partnerships.

### *Direct Actions and Activities*

Ecosystem Management Research and Directions synthesizes the outcomes of primary research and scientific literature with local data to help develop ecosystem targets, management plans and strategies, policies, and practices that are sensitive to local social, ecological, and economic considerations. When appropriate, TRCA builds partnerships with academic, public, and/or private organizations to undertake new or supplementary research that addresses a variety of urban and near-urban ecosystem health and management issues. Research outputs (e.g. data, models, survey results, literature review reports) are used to support the implementation and/or update of TRCA corporate strategies and plans in support of The Living City Policies.

### *Complementary TRCA Actions and Activities*

Ecosystem Management Research and Directions is complemented by the following TRCA activities:

- Policy Development and Review identifies key development stressors and opportunities within TRCA's jurisdiction
- Watershed Planning and Reporting processes help identify and situate data and knowledge gaps within an integrated watershed management perspective
- Restoration and Regeneration initiatives and monitoring of site performance following remediation activities support best practice evaluation and adaptive management
- Water Resource Science and Biodiversity Monitoring provide the raw data, and analysis thereof, to support the assessment of local conditions, vulnerabilities, and early-stage climate mediated change
- The Ontario Climate Consortium (the Secretariat for whom is hosted by TRCA) generates and/or synthesizes wide-ranging, evidence-based guidance for public and private sector stakeholders on climate change adaptation and mitigation

### *Key Outcomes*

- Municipal partners' technical and policy/planning needs are supported with defensible science and local evidence
- Up-to-date urban and near-urban ecosystem management principles are advanced through TRCA documents and initiatives, municipal Official Plans, master plans, strategies, as well as other relevant internal and external documents and regulations
- Indicators of terrestrial and aquatic ecosystem structure and function are developed and used to enhance assessments of watershed health
- Data analysis and synthesis that are of sufficient quality to be utilized by academic research partners and published in peer-reviewed publications

### *Key Activities – 2018-2021*

Ecosystem Management Research and Directions for 2018-2021 focus on:

- Identifying key knowledge gaps to achieving TRCA's strategic goals and develop a research agenda that addresses these gaps
- Developing planning and decision support tools for terrestrial and aquatic ecosystem management that explicitly incorporates natural and urban areas, the integration of natural and engineered measures, and vulnerabilities associated with land use changes and extreme climate events
- Completing and implementing the Ecosystem Compensation Program; continuing the development and implementation of the Restoration Opportunities Bank
- Supporting implementation of the TRCA Crossing Guidelines for Valley and Stream Corridors and completing a crossings effectiveness study

### **Outlook**

Ecosystem Management Research and Directions will continue to adapt to the evolving state-of-science and practice as well as to municipal partner needs. A responsive research agenda will developed and implemented in which EMR&D will emphasize terrestrial and aquatic ecosystem integration and the evaluation of ecosystem functions; this research will include examining the cascading and interdependent effects of both beneficial and detrimental alterations on terrestrial and aquatic habitat across natural and urban environments. Climate and land use scenarios and uncertainties will also be explicitly examined to advance the understanding and management of these stressors as they relate to ecosystem function.

Research and data synthesis will proceed in a comprehensive manner and with an emphasis on understanding and informing urban ecosystems management and development planning. The increasing recognition that ecosystem structures enable ecological functions (with demonstrable value) creates a need for ecosystem structure-function-service relationships to be more fully evaluated, quantified, and articulated in a format useful to decision makers. To this end, EMR&D will expand its assessment of living and engineered green infrastructure impacts in areas both inside and outside areas considered "natural". This research will include evaluating the ability of living and green infrastructure to provide ecosystem functions traditionally thought only available from natural areas, and the implications thereof.

The above research will allow TRCA to be more effective in implementing urban and near-urban ecosystem management principles that are responsive to societal needs while managing uncertainties associated with climate and land use change.

## Biodiversity Monitoring

### Objectives:

- Enable science-based planning and decision making
- Enable best-practice identification and implementation
- Enable evidence-based program design
- Meet data needs and requirements of federal, provincial, municipal, academic, and private sector partners

### Program Features

#### *Positioning*

The *Conservation Authorities Act*, Section 21(a) assigns TRCA a mandate “to study and investigate the watershed to determine a program whereby the natural resources of the watershed may be conserved, restored, developed and managed”. To this end, TRCA maintains research, monitoring, and data analysis capabilities to meet internal, municipal, provincial, and federal partner data needs in a manner that protects intellectual property and data integrity while minimizing expense. TRCA may offer free or fee-for-service data collection, sharing, and/or analysis for projects in which it is actively collaborating. It also actively partners with adjacent conservation authorities to address regional data needs in a consistent and coordinated manner; the standardization of monitoring protocols at diverse sites allow data integration and comparison with watershed- and region-scale data sets.

As part of an integrated service delivery model, Biodiversity Monitoring enables TRCA to accelerate the adaptive management cycle and to address emerging opportunities and concerns more quickly, comprehensively, and cost-effectively.

#### *Context*

Many TRCA program areas - including Restoration and Regeneration, Forest Management, and Watershed Studies and Strategies – require high quality data collection and analysis to inform plan/policy development and habitat creation or restoration initiatives. The scope and scale of data collection, the need for in-house QA/QC practices and specialized expertise, and the frequent requirement for access to TRCA lands, partnerships, and/or specialized aquatic monitoring equipment render the use of consultants unsuitable and prohibitively expensive for most projects.

#### *Stressors and Opportunities*

Biodiversity Monitoring provides the empirical and theoretical foundation for numerous TRCA initiatives. Many Biodiversity Monitoring activities, however, do not produce immediately recognizable, stand-alone outputs. If funding pressures were to prohibit sustained data collection, the legitimacy of TRCA plans and recommendations may be compromised. Further, long-standing data records reflecting the effects of urbanization, climate change, and environmental restoration activities may be interrupted. The absence of robust, comprehensive, and continuous data records would compromise the ability of private and public sector clients to access data to support or refute proposals in a timely manner.

TRCA's involvement in Toronto region monitoring collaborations (including advisory services to adjacent conservation authorities) ensures data collection targets and protocols are regionally coordinated and consistent. This consistency of approach increases data value and usability for public, private, and academic partners while reducing unproductive data collection redundancies.

#### *Funding*

Funding for biodiversity monitoring is obtained through municipal levy, federal funding and special capital projects. Significant in-kind contributions are made by Ontario Ministry of the Environment and Climate Change and City of Toronto for laboratory analysis of water samples.

### *Direct Actions and Activities*

Fixed monitoring sites are assessed on an annual or rotational basis and provide insight on the effects of regional urbanization on terrestrial and aquatic habitat, species and communities. Results from this work, in combination with comparable site specific monitoring undertaken at development and restoration project sites, guide greenspace acquisition, restoration planning, and management strategies to ensure continued biodiversity and regional ecosystem stability. The data may also be used to establish pre-development baselines and assess the relative success or failure of sustainable community building and restoration activities.

In addition to fixed plot sites, TRCA conducts a Terrestrial Biological Inventory and Assessment on lands acquired or scheduled for development. By applying the same methodologies used at fixed plot monitoring sites, TRCA garners data that inform regional analysis and perspective on issues such as the distribution of species of conservation concern and landscape-scale opportunities and threats.

Waterfront monitoring activities assess the abundance and diversity of aquatic habitat and communities such as fish. Data from this program validate the effectiveness of aquatic habitat restoration activities and guide and/or support future water and/or waterfront initiatives and environmental assessments (EAs) while demonstrating compliance with federal and provincial fisheries legislation.

### *Complementary TRCA Actions and Activities*

Biodiversity Monitoring is complemented by the following TRCA activities:

- Water Resource Science collects data that provide physical and chemical context to ecological data collected by the Biodiversity Monitoring program
- Watershed Planning and Reporting and Ecosystem Management Research and Directions identify future watershed scenarios and outline current and future data needs
- Restoration and Regeneration projects identify and/or motivate site specific monitoring

### *Key Outcomes*

- Plans and recommendations are based on defensible data and supporting science
- Data sets are of sufficient extent and quality to be utilized by academic research partners and published in peer-reviewed publications
- Defensible expert advice and best practices services are provided to internal, municipal, and private sector partners and stakeholders

### *Key Activities – 2018-2021*

- Maintain and expand the Biodiversity Monitoring network, including required investments in capital assets (data collection equipment/instruments) and human capital (staff resources and training on current practices and techniques)
- Investigate and implement data and information technologies to more effectively house and share large data sets
- Streamline internal and external data/information sharing and transfer
- Support the development of key TRCA communication products including watershed report cards (2018) and the next generation of watershed strategy reporting

### **Outlook**

The Biodiversity Monitoring program will continue to pursue partnerships and technologies that expand, refine, and coordinate the scope and scale of data collected while enhancing data integrity, security, and accessibility. Additional avenues – either through increasing accessible platforms or new communications products – will be sought to highlight the type of data available, the value resulting from its collection, and/or specific narratives used to enhance TRCA's understanding of issues and outcomes related to regional biodiversity.

## Restoration and Regeneration

### Objectives:

- Plan and implement the protection and restoration of natural systems to:
  - Protect and restore ecosystem health and function
  - Enhance landforms and shorelines
  - Improve watershed health
  - Increase natural cover

### Program Features

#### *Positioning*

The *Conservation Authorities Act*, Section 20 assigns TRCA a mandate “to establish and undertake... a program designed to further the conservation, restoration, development and management to natural resources other than gas, oil, coal and minerals.” To this end, the Restoration and Regeneration program undertakes comprehensive and integrated environmental restoration services for public sector partners and private clients. Restoration works are commonly bundled with erosion, habitat and/or greenspace enhancements to achieve aesthetic, environmental, and economic gains at low marginal cost. These enhancements, combined with the ability to offer streamlined restoration plans and permitting services, make TRCA’s offerings unique in delivering both economic and environmental value-added services.

#### *Context*

Healthy natural systems rely on functional hydrologic and landform processes and vegetative cover; impairment occurs when these processes have been altered. The current state of the Toronto region represents over 100 years of such alterations that extend from initial deforestation and draining of wetlands, through the damming of rivers to power mills, to current greenfield development for residential and commercial purposes. As a result of this continued legacy of landscape alteration and/or degradation, TRCA now holds a growing inventory over 10,000 lake, stream, and terrestrial sites that require restoration and/or regeneration.

Restoration and regeneration occurs within a multijurisdictional space with diverse legislative and regulatory inputs. To streamline aquatic habitat planning and approval processes, TRCA co-founded the Aquatic Habitat Toronto group which convenes Waterfront Toronto and municipal, provincial, and federal stakeholders and on a regular and collaborative basis. At present no equivalent group exists to coordinate and accelerate terrestrial and riparian project planning through to implementation, however TRCA maintains positive relationships with each of the relevant stakeholders for such initiatives and works closely with these groups to implement priority restoration across the TRCA jurisdiction.

#### *Stressors and Opportunities*

Continued development and urbanization of the Toronto region will continue to compromise natural features, communities, and processes. Through internal collaboration with divisions addressing flood and erosion risk, urban infrastructure retrofits, climate change, resource management, ecology, restoration science and regulatory planning and permitting processes, TRCA is able to identify sites where restorative works can be undertaken at favorable cost-benefit profiles. Despite these service delivery efficiencies, the ongoing creation of new restoration sites and opportunities decrease the rate to which backlog can be addressed.

As climate change continues to progress, the number of sites requiring restoration and/or regeneration is anticipated to increase. High intensity storms, such as those witnessed in the summer 2013, can significantly increase restoration site counts and priorities with a single acute event. In contrast, climate change effects such as drought or altered hydrologic regimes will unfold more slowly but create the need for restoration and regeneration over very large areas.

#### *Funding*

Funding for restoration and regeneration is obtained through municipal levy, grants and contracted services throughout TRCA’s jurisdiction.

### *Direct Actions and Activities*

Restoration sites are identified through field assessments; priority restoration site rankings are based on integrating various disciplines within environmental science and are updated annually or as conditions require (i.e. following a significant storm event). Priority rankings inform annual and long-term restoration and regeneration projects and associated habitat improvement projects.

Restoration and Regeneration's expertise assists municipal, regional, and provincial partners in the development of policies and guidelines relating to natural protection and restoration. TRCA also conducts workshops for private landowners, partners and other conservation authorities on ecosystems and biodiversity.

### *Complementary TRCA Actions and Activities*

Restoration and Regeneration is complemented by the following TRCA activities:

- The Water Resource Science program collects data that provide physical and chemical context to the ecological data collected by the Biodiversity Monitoring program
- Watershed Planning and Reporting and Ecosystem Management Research and Directions identify future watershed scenarios and outline current and future data needs

### *Key Outcomes*

- Restored natural hydrologic processes and balanced hydrologic regimes
- Improved aquatic systems and habitat (including critical habitat)
- Increased natural vegetative cover, soil stabilization, and terrestrial habitat (including critical habitat)
- Improved air and water quality

### *Key Activities – 2018 - 2021*

- Continue to provide expert technical guidance to municipal and agency partners on the natural systems, terrestrial and aquatic habitat, and green infrastructure
- Continue to develop strategic and integrated restoration plans at both site specific and a reach scale to facilitate and expedite on-ground restoration initiatives
- Implementation of high priority restoration and habitat projects
- Continue to provide expertise, data and mapping to municipalities to support the continued development of municipal natural heritage policies, strategies and programs

### **Outlook**

In addition to remaining abreast of current restoration and regeneration science and engineering, the Restoration and Regeneration program will continue its three-pronged approach of planning, implementation, and regulatory insight to achieve on-the-ground gains. No significant program shifts are anticipated and the program will continue to be sensitive and responsive to the changing needs of municipal partners, cost saving and value-add opportunities, and the state of the natural environment.

## Forest Management

### Objectives:

- Establish and maintain healthy, vigorous, and diverse forest cover and associated habitat
- Improve watershed health
- Increase awareness and level of engagement throughout communities

### Program Features

#### *Positioning*

TRCA's forestry expertise allows it to offer comprehensive and integrated forest management, reforestation and restoration services to municipal and regional partners and private property landowners. Reforestation projects are commonly bundled with habitat and/or public greenspace enhancements to achieve aesthetic, environmental, and economic gains at low marginal cost.

To ensure supply availability and cost-effectiveness for the use of native species in TRCA ecosystem regeneration projects, Forest Management operates its own nursery. Locally collected seed is used to grow highly desirable hardy native plant materials well adapted to local conditions.

#### *Context*

TRCA manages over 10,000 hectares (25,000 acres) of forested lands within its jurisdiction. Active management of forests greatly improves forest health parameters including biodiversity and resilience to insects, disease and climate change. Wildlife habitat, environmental protection, stormwater management, and forest long-term survival also benefit from active management practices.

The use of locally adapted genetic populations in ongoing planting and other regenerative activities is critical to supporting robust natural cover on the landscape. The use and promotion of native species collected and propagated from local trees and shrubs significantly advances robust natural cover objectives.

The emerald ash borer (EAB) is an invasive species that kills host ash trees. Despite substantial research and control efforts, EAB is now found throughout much of southern Ontario. Recent findings and EAB observations in the Toronto region indicate the spread and intensity of EAB infestation has accelerated, and has generally progressed from south to north. Ash infestation peaked in 2015/2016 and the full impact due to hazard trees and forest decline will continue to require attention in the coming years.

#### *Stressors and Opportunities*

Existing forest resources under both public and private ownership are experiencing increased biotic and abiotic stressors including invasive species and climate change. The combined effects of these stresses can have a detrimental effect on the overall health and quality of forest resources and their ability to sustain ecological functions. In particular, continued global trade and an increasingly warm climate anticipate the continued arrival and establishment of invasive species that target trees and other plants. Like emerald ash borer, and Dutch elm disease before it, invasive species may decimate local tree populations, cause extensive ecological damage, and increase risks to human health as trees die and collapse.

TRCA uses stressors as educational opportunities to promote good forestry practices and to proactively maintain and increase forest health and vitality. By realizing opportunities to create more knowledgeable and engaged public and private landowners, TRCA fosters a growing constituency of landowners capable of contributing to forest cover targets and associated ecosystem services.

The expertise of TRCA's Forest Management program is recognized and accessed by several partner municipalities and conservation authorities. Other conservation authorities now coordinate planting efforts with TRCA as well as combine program advertising and promotional activities. Through these opportunities TRCA is enhancing already strong partnerships.



### *Funding*

Funding for Forest Management is obtained primarily through municipal levy, however there is further opportunity to expand our programs to municipal, private, and provincial initiatives.

### *Direct Actions and Activities*

The Forest Management program fulfills TRCA's goal of ongoing reforestation and riparian planting on public and private lands. TRCA staff provides reforestation and riparian habitat site planning and advisory services to support tree planting efforts with municipal and regional partners. Planting sites are screened and selected based on established program criteria.

To manage and maintain reforestation and restoration, TRCA propagates and produces trees and shrubs at its nursery. Between 2001 and 2015, more than 3.8 million trees and shrubs were supplied and/or planted by TRCA; this number is anticipated to increase in the future.

### *Complementary TRCA Actions and Activities*

Forest Management is complemented by the following TRCA activities:

- Ongoing public engagement, community based restoration and education through Community Engagement activities including participation in forest stewardship and reforestation planting events
- Delivery of Private Landowner Forest Stewardship programming and services
- Greenspace Acquisition protects and grows the publicly held and managed forested land base for a variety of greenspace values and sustainable nature based recreation activities
- Risk mitigation activities include hazard tree monitoring and abatement to provide a safe environment for users of TRCA properties
- The Terrestrial Natural Heritage System Strategy establishes targeted priority enhancement areas for natural cover on the landscape
- Regional Monitoring programs gauge the general health and integrity of forests across the jurisdiction and document changes over time

### *Key Outcomes*

- Maintain, increase, and improve forest cover
- Transform marginal and/or agriculturally fragile lands into forests
- Contribute to watershed objectives including:
  - Healthy habitat and wildlife populations thereof
  - Greenhouse gas reduction and climate change adaptation
- Contribute to landowner and/or citizen benefits including:
  - Improved outdoor recreation opportunities and attendant academic, health, and wellbeing benefits
  - Reduced private property energy costs (shade and shelter)
  - Increased social and community well-being through collective contribution to the natural environment

### *Key Activities – 2018-2021*

- Analyze, prioritize and coordinate enhanced managed forest implementation on TRCA lands with an emphasis on stands with a high composition of ash trees
- Continue public engagement and education on best forestry practices
- Continue identification, planning and implementation of reforestation and restoration priority projects, including the preparation of site specific forest resource management plans
- Continue to monitor, grow and supply hardy native plant materials from TRCA's nursery

**Outlook**

At present, the Forest Management program is anticipated to continue working toward high quality forest cover capable of sustaining ecosystem functions while providing safe and enjoyable passive recreational opportunities for citizens. TRCA will continue to educate the community and improve existing forest health by implementing good forestry practices.

## ***Greenspace Securement and Management***

This service area includes the acquisition of a public interest in and management of environmentally significant lands in order to protect their natural functions and services and to conserve the land for the benefit of current and future generations. Key program areas include greenlands acquisition, inventory and audit, master planning, land hazard management, and the protection of archeologically significant resources.



***Greenspace Securement***



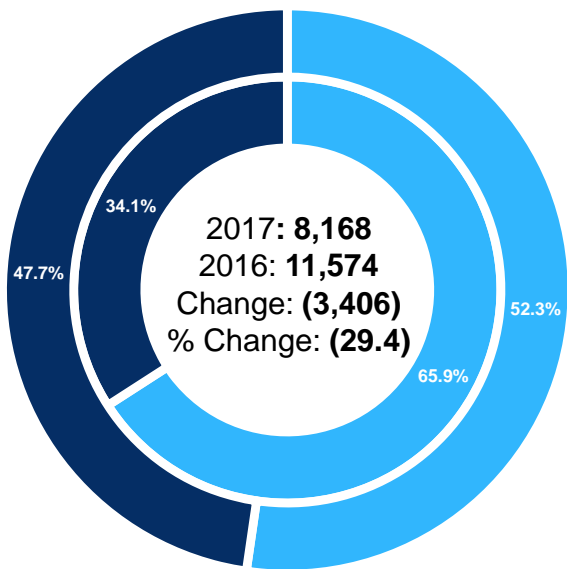
***Greenspace Management***



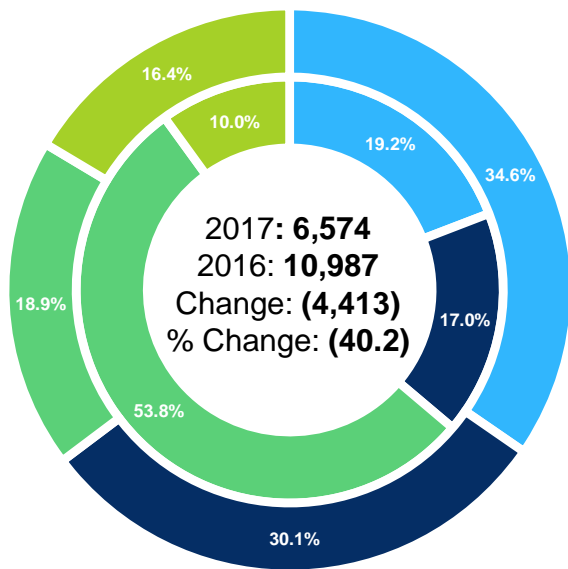
***Rental Properties***

# Greenspace Securement and Management

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA's 2017 budgeted figures and the inner ring represents TRCA's 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other



Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other



## Greenspace Securement

### Objectives:

- Bring environmentally significant natural heritage lands into public ownership
- Ensure the protection of life and property by securing lands subject to flood and erosion hazards
- Increase recreational health benefits by allowing public use and enjoyment of natural lands

### Program Features

#### *Positioning*

The *Conservation Authorities Act* provides TRCA with the mandate “to acquire by purchase, lease or otherwise and to expropriate any land that it may require.” Land securement protects human life and property by securing lands subject to erosion or flooding hazards, protects the form and function of natural heritage lands by bringing them into public ownership and management, and increases local and regional recreational health benefits by allowing for public use and programming. Greenspace is secured through a variety of methods including fee simple purchases, donations, conservation and other easements, restrictive covenants, leases and management and other agreements.

#### *Context*

TRCA’s current landholdings contain approximately 7.3% of the total land base of TRCA’s jurisdiction; lands include several conservation parks, major ravine systems, the Lake Ontario shoreline, and other existing greenspace holdings of more than 18,000 hectares. TRCA’s Greenlands Acquisition Project 2016-2020 includes criteria from plans and strategies including TRCA’s *Terrestrial Natural Heritage System Strategy (TNHSS)* and outlines priority areas and parcels for acquisition that are critical to maintaining viable functioning of Toronto region’s watersheds and associated ecosystems.

#### *Stressors and Opportunities*

TRCA is currently constrained in its ability to fund fee simple acquisitions. While the regions of Peel, York and Durham currently have greenlands funding programs that will contribute up to a maximum of 50% of the total cost of acquisition, matching funding sources have proven difficult to obtain.

Opportunities to secure greenspace through donation have increased as a result of Environment Canada’s Ecological Gifts Program; this program allows donors to use their charitable tax receipt for up to 10 years and to offset up to 100% of their annual income. While such transactions bring important natural heritage features into public ownership, they are opportunity-based and serve as a complement TRCA’s greenspace securement initiatives. TRCA also continues to acquire lands through the development process for nominal consideration.

#### *Funding*

Funding for securement of nominal value transactions and donations is obtained through current value assessment municipal levy. For market value land/greenspace acquisitions, regional and local municipal programs exist which allocate up to 50% of the total costs for the purchase of priority environmentally significant lands as identified by TRCA; these regional and municipal initiatives are currently constrained by a lack of matching funding. Funding may also be secured from other organizations such as the Nature Conservancy of Canada, the Ontario Heritage Land Trust, and private foundations.

#### *Direct Actions and Activities*

TRCA secured 906 hectares between 2011 and 2015 and achieved over 90% of the 1,000 ha target established in the Greenlands Acquisition Project for 2011-2015. The Greenlands Acquisition Project for 2016-2020, through which greenspace securement is primarily dictated, identifies funding partners and estimated financial contributions for its five year duration. Based on recent rate projections, it is estimated that greenspace secured could reach 1,000 hectares (2,500 acres).

### *Complementary TRCA Actions and Activities*

Greenspace Securement is complemented by the following TRCA activities:

- The Water Resource Science, Flood Management, and Erosion Management programs identify natural hazard areas to target for land acquisition
- The Ecosystem Management Research and Directions program identifies lands targeted for inclusion through the Greenlands Acquisition Project 2016-2020

### *Key Outcomes*

- Greenspace is acquired in support of TRCA's The Living City Policies, integrated watershed and waterfront plans, provincial, regional and municipal official plans and the Terrestrial Natural Heritage System Strategy as well as other TRCA plans and strategies
- Environmentally significant land/greenspace, including terrestrial and aquatic habitat, is protected
- Greenspace for health and wellness benefits including air and water quality preservation, trails and active recreation, social enhancement, and aesthetic benefits is protected
- The use of natural features in the attractiveness of the Toronto region as a location for business and residence is increased

### *Key Activities – 2018 - 2021*

- Acquire lots of record that are located in the flood plain or in ecologically or hydrologically important areas
- Secure areas, as they are identified, for source water protection
- Acquire lands to extend and to complete the missing connections in the TNHSS and public ownership along the river valleys and Lake Ontario shoreline
- Secure continuous corridors for the regional trail system
- Acquire greenspace surrounding existing TRCA properties to amass larger areas
- Communicate the benefits of the Ecological Gifts Program to private landowners

### **Outlook**

Greenspace Securement will continue in its present form with updated and revised objectives regarding the quantity, location, and parameters of land TRCA seeks to acquire. Program implementation and success will ultimately depend on securing adequate funds to acquire priority parcels of land.

## Greenspace Management

### Objectives:

- A network of greenspace and green infrastructure that weaves through every community to connect a healthy and resilient landscape
- Improved protection of Toronto region's natural systems
- More residents engaged more often with nature and in activities that help improve their health and well-being, communities, and environments

### Program Features

#### *Positioning*

The *Conservation Authorities Act* (1946) provides for TRCA's mandate to undertake watershed planning and management programs that prevent, eliminate, or reduce the risk to life and property from flood and erosion hazards and to encourage the conservation and restoration of natural resources. To meet this mandate, TRCA undertakes comprehensive land asset management services on TRCA managed greenspace to reduce human and asset risk from natural or human hazards, eliminate encroachments, and discourage unauthorized use of conservation lands.

Through its Greenspace Management activities, TRCA is able to ensure that natural and cultural heritage resources are protected and, where appropriate, provide opportunities for safe and enjoyable recreation experiences to residents and visitors.

#### *Context*

TRCA owns over 18,000 hectares of land within the Toronto region (approximately 7.2% of the TRCA jurisdiction). TRCA's ownership enables the protection and management of valley and stream corridors, flood plains, the Lake Ontario shoreline, wildlife, vegetation and environmentally significant areas. Over half of TRCA-owned lands are managed outright by TRCA and offer limited or no public access (9,610 hectares) or, instead, serve as conservation parks and education field centres (527 hectares). The balance of TRCA land is managed under municipal management agreements, third-party leases, rentals or other covenants, and easements.

TRCA and its municipal partners manage trails, conservation areas and parks, greenspaces, and education centres within communities. Trail linkages include those within ravine systems and on the Lake Ontario shoreline, Oak Ridges Moraine and Niagara Escarpment. Large urban wilderness parks like Tommy Thompson Park offer outdoor activities such as hiking, cross country skiing, bird-watching, and nature appreciation.

While most of TRCA's greenspace provides opportunities for minor recreational or passive non-intrusive use, certain areas are managed to support major recreational uses such as campgrounds, educational facilities, sustainable community demonstration sites, a living museum, and a golf course. TRCA employs best management practices and environmental stewardship - through the establishment of land management and master plans - to protect and conserve the valuable natural and cultural heritage attributes within each of its nine watersheds. All TRCA properties, regardless of the management category and intensity of public use, require regular and proper inspection, land planning, management and monitoring.

#### *Stressors and Opportunities*

Faced with declining quality of much of the region's greenspace and increased demands for greenspace resources by a rapidly growing urban population, there is presently an opportunity to rethink greenspace as an integrated system. To this end, TRCA will assist municipal partners in the development of a greenspace network that maximizes community well-being and local ecosystem protection. Opportunities associated with this approach include increased citizen health and happiness, increased appropriate access to existing nature, and the creation of new green infrastructure in urban areas. Investment in long-term greenspace management and renewal will be required for these objectives to be realized.

Continued and enhanced engagement with the indigenous and Metis peoples of the Toronto region represents an important opportunity to strengthen relationships with meaningful dialogue, information exchange, and collaboration within current TRCA programming. While initiatives in this regard are expected to intersect with many facets of TRCA operations, Greenspace Management will ensure consistency and coordination in TRCA's approach and involvement with each respective community engaged.

TRCA lacks stable funding to ensure comprehensive site securement, to maintain state of good repair on existing infrastructure, and to develop additional land management or public use plans that proactively prepare for future public needs for accessible greenspace. The absence of stable public funding indexed to the amount of greenspace managed poses a significant threat to TRCA's ability to continue providing greenspace access in a responsible manner. Should stable funding sources not be identified, TRCA expects to develop strategies that curtail greenspace access and decrease associated expenses to sustainable levels.

#### *Funding*

Funding for greenspace management is obtained primarily through municipal levy and special capital projects. Taxes and insurance are funded through general levy.

#### *Direct Actions and Activities*

TRCA's Greenspace Management activities seek to protect and restore the form and function of existing ecological systems. Program initiatives include the assessment, planning, management, monitoring and administration of TRCA properties. These actions ensure that natural and cultural heritage resources are protected and, where appropriate, opportunities are provided for safe and enjoyable visitor experiences.

Administrative functions undertaken through the Greenspace Management program include asset inventories and management planning, stewardship and monitoring, site securement and encroachment removal, hazard identification and mitigation, and the administration of insurance and realty taxes.

#### *Complementary TRCA Actions and Activities*

Greenspace Management is complemented by the following TRCA activities:

- Greenspace Securement and Rental program initiatives bring new lands into TRCA ownership, diversify greenspace management and use, and generate revenue for TRCA programs
- Forest Management programs assist in the identification and mitigation of natural hazards on TRCA lands and reduce or eliminate the realty tax burden on qualifying lands
- The Trails program coordinates with Greenspace Management actions on lands where public access via trails is permitted
- Conservation Parks and School Program field centres include high-intensity public uses such as campgrounds, swimming facilities, educational programming, and other supporting facilities. The basic greenspace management requirements for these lands are consistent with the broader greenspace management framework for all TRCA lands
- Community Engagement programs are involved in the development, implementation, and monitoring of greenspace management plans and programs

#### *Key Outcomes*

- Identify and protect ecological functions and services, and cultural heritage resources, of TRCA lands
- Provide safe, sustainable public recreation opportunities (where appropriate) and address TRCA liability and risk as a landowner and/or manager
- Undertake responsible stewardship/partnership with respect to aboriginal engagement and heritage
- Improve individual and social health and well-being indicators by providing safe access to the natural environment



### *Key Activities – 2018 - 2021*

- Initial inventory of new property acquisitions and greenspace not previously assessed
- Ongoing audit of TRCA property boundaries and internal property features
- Ongoing assessment and abatement of hazards along prescribed property boundaries
- Ongoing greenspace operation activities including site securement, encroachment removal, and property standards maintenance
- Development of jurisdiction-wide trail and greenspace strategies
- Ongoing preparation of property specific management and master plans to protect environmental features and identify appropriate potential nature-based recreation activities that may occur
- Ongoing administration of TRCA's Cultural Heritage Master Plan including archaeological database management, assessments and monitoring, collection management, aboriginal engagement, and archaeological education and outreach
- Ongoing collaboration with Parks Canada for the establishment and management of Rouge National Urban Park

### **Outlook**

As the broader socio-ecological context of the region continues to change, TRCA management systems will seek to remain responsive and adaptive. Greenspace Management activities, however, are dependent on the level of financial resources made available by benefitting municipalities. Where financial support is strong, Greenspace Management activities will continue to be robust, comprehensive and proactive. Where little or no financial support is provided, Greenspace Management activities will include only basic hazard audits and mitigation necessary to permit safe public use on select lands; remaining greenspace in unfunded regions may be closed to public access.

## Rental Properties

### Objectives:

- Financial sustainability
- Maximize asset values and associated revenues
- Comply with relevant legislation

### Program Features

#### *Positioning*

The *Conservation Authorities Act* empowers TRCA to lease land that it has acquired. TRCA will, on occasion, acquire property that is improved with residential dwellings/outbuildings and parcels of land that may be suitable for leasing. Provided the environmental features for which the properties were purchased are not negatively affected, the dwellings/outbuildings and suitable land are leased to maximize asset values and associated revenues. Retrofits, upgrades and renovations to the structures are considered in conjunction with TRCA's overall commitment to sustainability, a healthy and safe environment, and net revenue potential.

#### *Context*

TRCA currently manages 163 leases comprised of 118 residential leases, 19 farm land leases, 8 commercial leases, and 18 ancillary land use leases. Commercial leases include, but are not limited to, cellular telecommunication towers, Wet N Wild, the Frenchman's Bay Yacht Club, and the Claireville Ranch. TRCA also rents more than 2,534 acres of land for farming purposes including near-urban farm agricultural agreements. TRCA enters into trail agreements and field school agreements with trail organizers and school boards, respectively.

#### *Stressors and Opportunities*

Key stressors associated with maximizing rental income are structure age and condition. Older homes have poor insulation that makes them more difficult to heat and maintain. Budgetary constraints limit the capital expenditures available for building upgrades, and TRCA is exploring partnerships with private individuals or companies wherein uninhabitable TRCA homes (poorly insulated or otherwise) would be renovated in exchange for free or significantly reduced rent over a defined period. At the end of the defined lease period, a housing unit in an improved and habitable condition would be available to TRCA for subsequent lease agreements.

TRCA continues to explore and pursue revenue generating opportunities from the lease of TRCA land including of agricultural opportunities and trail agreements. Such agreements may also be hoped to create further community engagement and enhancement opportunities.

#### *Funding*

The Rental Properties program is financially self-sufficient. Revenue generated from this program covers the costs for maintaining the residential properties; net revenue supports staff costs for managing TRCA lands and other corporate programs.

#### *Direct Actions and Activities*

Rental related activities include the management of: rental payments and expenditures; lease terms and conditions; lease renewals and the filling of vacancies; the negotiation of new commercial leases, and; long term restoration agreements. Furthermore, TRCA arranges for regular and major maintenance repairs to the structures and prepares 10 year maintenance plans. TRCA abides by all Ontario Health and Safety Regulations, the *Heritage Act*, the Ontario Building Code, and the *Residential Tenancies Act, 2006*

#### *Complementary TRCA Actions and Activities*

Rental Properties are complemented by the following TRCA activities:

- Greenspace Securement acquires the properties in the initial stage

### *Key Outcomes*

- Revenue generation
- Compliance with all applicable legislation
- Support staff costs for managing TRCA lands

### *Key Activities – 2018-2021*

- Ongoing health, safety, and major maintenance inspections
- Ensure water quality within residential and commercial properties
- Negotiate long-term occupancies and/or restoration agreements
- Increase rental income by increasing agricultural leases, cell tower leases, and other lease opportunities
- Prepare ten-year maintenance plans

### **Outlook**

Rental Properties will continue to manage the rental portfolio and carry out regular and major maintenance on the residential dwellings. Opportunities for long term restoration agreements and commercial leases will be explored in an effort to increase revenues in support of asset betterment and other TRCA programs. Rental Property income is anticipated to increase in 2017 in accordance with the *Residential Tenancies Act*.

On May 4, 2011, the federal government announced the creation of the Rouge National Urban Park. This site, located within the Rouge watershed, consolidated TRCA, federal, provincial and municipal lands into a new park under Parks Canada management. TRCA is working with Parks Canada on the conveyance of 2,266 hectares of TRCA land to the Park which includes 68 residential leases, 9 farm land leases, 2 commercial leases and 2 ancillary land use leases. TRCA is in discussions with Parks Canada about its ongoing role in the management of the rentals and leases after transfer.

## ***Tourism and Recreation***

This service area provides memorable experiences for guests in nature-based settings, which make positive contributions to community health and well-being, while advancing the economic development goals of partner municipalities. Programs include management, maintenance and enhancement of conservation parks and recreation facilities. TRCA delivers these services through leveraging public and private partnerships that focus on community development, tourism and recreational offerings.



***Conservation Parks***



***Waterfront Parks***



***Trails***



***Black Creek Pioneer Village***



***Bathurst Glen Golf Course***



***Events and Festivals***

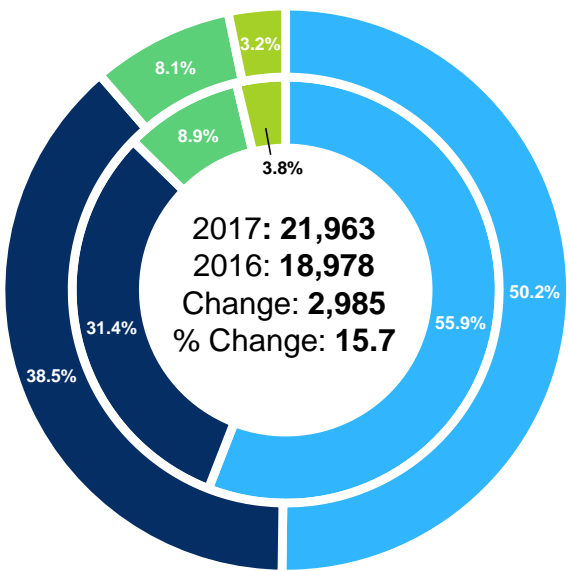
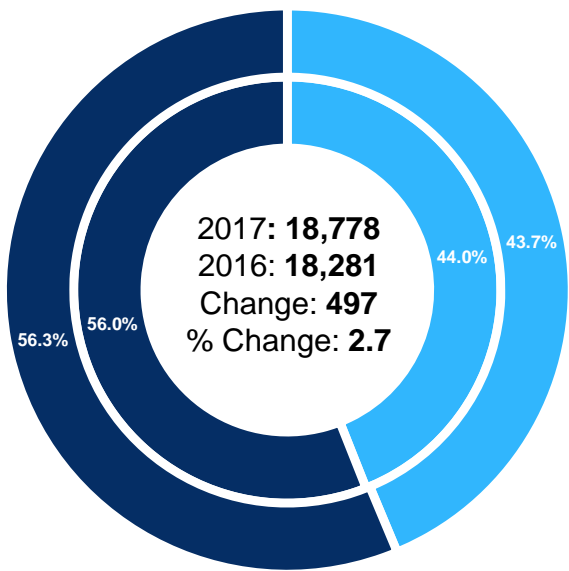


***Weddings and Corporate Events***

# Tourism and Recreation

Revenue Sources

Expenses by Object



In the above donut charts, the outer ring represents TRCA's 2017 budgeted figures and the inner ring represents TRCA's 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other



Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other



## Conservation Parks

### Objectives:

- Provide sustainable and accessible nature-based recreation and tourism experiences for residents and visitors
- Enable behaviours that foster individual and social health and well-being, including:
  - Active living through active recreation; and
  - Connections to nature through recreation
- Enhance equality, inclusion, and access to natural environment settings for populations facing barriers to participation
- Deliver high quality customer experiences and increase visitation in support of an eco-tourism economy
- Ensure financial sustainability and promote sustainable growth

### Program Features

#### *Positioning*

Toronto and Region Conservation Authority (TRCA) is one of the largest landowners in the Toronto region and manages ten conservation parks across nine watersheds. Proximity to the urban core makes conservation parks attractive to urban and suburban residents and visitors seeking natural spaces and recreation opportunities within the Greater Toronto Area (GTA).

In addition to natural spaces, TRCA conservation parks offer unique outdoor experiences by providing specialized, site-based amenities and nature-based recreation activities and products.

TRCA facilities also offer the closest camping and RV sites to downtown Toronto. As a result, TRCA conservation parks cater to an important segment of the travel and tourism market by offering easy access to Toronto region businesses, attractions, and amenities.

#### *Context*

TRCA conservation parks are generally located within a 45-minute driving radius of Toronto's urban core. Daily park admission fees are charged at seven parks, with free admission for children ages 14 and under when accompanied by a paying adult. Park sites for which general admission fees are not charged include campgrounds, sites that offer fewer amenities, and sites subject to agreements whereby park administration expenses are funded by the local municipality.

TRCA conservation parks complement local municipal greenspaces by providing enhanced outdoor recreation offerings that include multi-use trails designed for hiking, biking, cross-country skiing and similar activities. In addition to trails, the parks also feature short and long-term camping and RV facilities, swimming pools, splash pads, fishing ponds, fully serviced manicured spaces for gatherings and picnics, and comfort amenities. Specialized facilities include a BMX bike park, Treetop Trekking experiences, and indoor venues that are available as rental venues for private bookings. Conservation parks also serve as host sites for public programs and special events such as family programs, workshops and festivals, adrenaline or adventure races, green weddings, and corporate events.

No provincial parks are located within TRCA's jurisdiction; however adjacent municipalities and watersheds with provincial parks include the Credit, Georgina/Lake Simcoe, Mono, Oakville, and Oshawa/Darlington. Some offerings available at provincial parks such as camping, trails, and public programming, pose direct competition to TRCA's offerings. TRCA conservation areas are differentiated from provincial parks in their capacity to cater to both public users and private clients. Provincial park fees are structured differently from TRCA conservation park fees making direct comparison difficult.

On May 4, 2011, the federal government announced the creation of the Rouge National Urban Park (RNUP). This site, located within the Rouge watershed, consolidated TRCA, federal, and provincial lands into a new site under federal management. Parks Canada is responsible for further development and administration of RNUP, however it is anticipated that Park offerings and constraints will be similar to those of provincial parks.

### *Stressors and Opportunities*

Research indicates that strong links exist between experiences in nature and key academic, health, social and environmental outcomes. As many TRCA conservation parks are situated in locations where access is motor vehicle dependent, these sites offer greater benefit to families who have access to time and resources needed to travel to the parks. TRCA is taking steps to improve park access and diversify visitation through partnerships with organizations such as Park Bus that can provide transportation from Toronto's core to designated TRCA parks. TRCA will continue to explore potential partnerships with TTC and other transit providers to reduce barriers to access to outdoor recreation.

Through the Education and Outreach and Community Engagement program areas, TRCA aims to better engage all demographics of the Toronto region at conservation parks. To do so, TRCA seeks to provide supportive physical, social, and programming environments such that participation in outdoor recreation is available and attractive to diverse citizenry. Such investments present an equitable approach to improving individual and social health and wellbeing indicators across the region.

Many of TRCA's conservation parks were established over 50 years ago and, as a result, a high proportion of existing park infrastructure is now reaching the end of its lifecycle and requires renewal or replacement. Insufficient funding for infrastructure and its attendant risk to human safety and visitor experience poses a challenge to TRCA's objective of increasing the quantity and duration of conservation park visits.

Volatility in fuel prices and Canadian dollar exchange rates may result in more Toronto region residents choosing to spend vacations or other leisure days near their primary residence ("staycations"). Accordingly, increases in the number of area residents seeking single-day outings present an opportunity for conservation parks to enhance attendance and revenue generation.

#### *Funding*

Conservation Parks program is funded through general levy and user fees.

#### *Direct Actions and Activities*

Administration and upkeep of TRCA conservation parks include park maintenance and risk management, staffing, day-to-day operations, program development and management, and business development. In addition to program-specific facilities, infrastructure at conservation parks includes trails, all-season buildings, over 65 seasonal buildings and/or washrooms, three swimming facilities, 56 picnic sites, and over 600 campsites.

#### *Complementary TRCA Actions and Activities*

- TRCA's Greenspace Securement and Management and Trails programs coordinate with Conservation Parks to ensure lands and trails are maintained according to the appropriate standard
- Education and Outreach, Family Programming, and Festivals and Events offer activities and programming that enhance the visitor experience at conservation parks

#### *Key Outcomes*

- Provide positive and memorable outdoor recreation experiences
- Increase park visitors, park visit frequency, and park visit duration
- Increase the proportion of attendees ranking their conservation park experience as "good" or better
- Enhance financial sustainability through partnerships and business development
- Maintain or enhance demographic diversity of park users
- Human health benefits from active living opportunities

### *Key Activities – 2018-2021*

- Continued conservation park master plan development and implementation processes
- Increase partnerships with public and private entities able to offer unique outdoor experiences at conservation parks
- Offer accessible amenities and programming to all conservation park visitors
- Address park infrastructure needs on a priority basis
- Continue examining the costs, revenues, and attendee profile of individual parks to identify service refinement alternatives that increase and diversify attendance and reduce barriers

### **Outlook**

TRCA will continue to manage its conservation lands to ensure that communities and partners have sustainable access to protected conservation lands, parks, valleys and stream corridors. In addition to daily operations, the activities of Conservation Parks will focus on increasing and diversifying sources of revenue. TRCA will also continue to pursue opportunities to bundle conservation parks membership into package offerings. Internally, TRCA will continue to evaluate its park programming and seek to more uniformly distribute programming offerings across the seasons.



## Waterfront Parks

### Objectives:

- Provide sustainable and accessible nature-based recreation and tourism experiences for residents and visitors
- Enable behaviours that foster individual and social health and well-being including:
  - Active living through active recreation
  - Connections to nature through recreation
- Enhance equality, inclusion, and access to natural environment settings for populations facing constraints to participation
- Deliver a high quality visitor experience
- Draw and retain regional tourism visitation by developing high quality waterfront parks and trails

### Program Features

#### *Positioning*

TRCA is a significant waterfront landholder with jurisdictional authority over the Lake Ontario shoreline, less the Central Waterfront. In combination with TRCA's standing expertise in park development, project management, erosion and landform works, integrated shoreline management, environmental assessment, public consultation and stakeholder engagement, TRCA provides uniquely comprehensive, streamlined, and value-added waterfront park development offerings that mitigate municipal partner risk and associated expense.

#### *Context*

TRCA's jurisdiction includes 67 linear kilometres and 231 total wetted kilometres of Lake Ontario shoreline, and TRCA's shoreline property holdings include 648 ha of the waterfront's terrestrial watershed. The majority of TRCA's terrestrial holdings have been converted into public greenspace and waterfront park amenities including Marie Curtis Park, Colonel Samuel Smith Park, Mimico Waterfront Park, Humber Bay Park Complex, Ashbridges Bay Park, Tommy Thompson Park, Bluffer's Park, East Point Park, Port Union Waterfront Park, Frenchman's Bay and Paradise Park.

Many of TRCA's waterfront park holdings contain stretches of the Waterfront Trail network. Free of charge and accessed by many millions of users each year, the Waterfront Trail extends over 1,600 km along the Canadian shorelines of Lake Ontario, Lake Erie, and Lake St. Clair and the Niagara, Detroit and St. Lawrence rivers; the trail connects 75 communities, over 400 parks, and many natural areas including wetlands, forests and beaches.

The sediments that make up the Toronto region shoreline are generally a mixture of sands, silts, clays, tills, and gravels. These materials are highly erodible; only with shoreline hardening initiatives have the contours of Toronto's shoreline become fixed. In many areas the shoreline has been modified, and/or new lands created, with the reuse of construction rubble and and/or soils excavated for construction (collectively referred to as lakefill). TRCA has monitored and controlled the chemical integrity of lakefill materials since 1988.

#### *Stressors and Opportunities*

TRCA's waterfront park infrastructure consists largely of materials and works that prevent shoreline erosion and undermining. Examples include breakwalls, seawalls, and shoreline features constructed with armour stone. Although robust, these works are subject to continual weathering by wave action and many of the structures have reached or exceeded their design life. This has resulted in the need for regular monitoring and maintenance to reduce risks to, among others, marine navigation, public property and buildings, roads and services, and public safety.

Because funding for waterfront infrastructure repair has not kept pace with emerging need, significant capital investment is now required to maintain waterfront assets. Acute and chronic stressors include increased frequency and intensity of storm damage resulting from climate change, ongoing deterioration of existing assets, and increased asset stock and liability resulting from new park construction. Accordingly, the cost of waterfront park maintenance and remediation is anticipated to increase for the foreseeable future.

Waterfront parks are free, aesthetically pleasing, transit accessible spaces through which citizens and visitors partake in active and passive recreation, enjoy formal and informal events and festivals, and access terrestrial and aquatic natural environments. As climate change increases temperatures and summer heat events increase in intensity and duration, waterfront parks (in particular those with swimmable beaches) will increase in importance as locations for citizens to mitigate heat-related stress. Continued and increased investment in maintaining safe and attractive waterfront parks are an important opportunity to increase attendant benefits to individual and social health and wellbeing while mitigating liability risk. Coordination of shoreline works with landside infrastructure improvements offer the benefits of reduced construction, coordination, and permitting burdens, reduced risk of erosion and undermining to renewed landside assets, and the delivery of a consistent, high quality park user experience.

Waterfront park planning and implementation offers significant opportunities for the creation of aquatic and terrestrial habitat. Formally set aside as a park in 1973, Tommy Thompson Park has since been recognized as a globally significant Important Bird Area in part for its role as a stopover site during spring and fall migrations. Similarly, aquatic works such as the wetland creation at Spadina Quay increase feeding and breeding sites for resident fish populations that in turn support local recreational fisheries. The continued deliberate and directed implementation of habitat works at waterfront park locations poses an opportunity to directly enhance local biodiversity, habitat connectivity, and climate resilience. These activities also contribute to the delisting of the Toronto region as a bi-national Great Lakes Area of Concern.

The expertise of TRCA's Waterfont Park program is recognized and accessed by several partner municipalities and other conservation authorities, and TRCA now enters into agreements to assist with projects in which it holds experience. To this end, TRCA is currently providing technical and project management expertise to the Lakeview Waterfront Connection Project - a new waterfront park along the eastern Mississauga shoreline. Through these opportunities TRCA is enhancing already strong partnerships while reducing project cost and uncertainty for municipal partners.

### *Funding*

Funding for waterfront parks is obtained primarily through municipal levy and contract services.

### *Direct Actions and Activities*

Waterfront Parks staff partner with municipalities in the planning, implementation, and management of waterfront parks. Roles include facilitating consultation and master planning processes, providing project management services, developing funding and budget management strategies, addressing legal matters arising from new park creation, and conducting ongoing stakeholder communication and outreach.

Internal coordination with TRCA Erosion Management staff ensures waterfront park maintenance work is carried out on a priority basis. A condition assessment and priority ranking of infrastructure within waterfront parks is maintained and updated annually or as conditions require (such as following a significant weather event). These priority rankings underpin TRCA's annual and long-term work plans that reduce risk to public safety, property, and infrastructure through waterfront park maintenance and remedial works.

### *Complementary TRCA Actions and Activities*

- Waterfront Plans and Strategies undertakes necessary environmental approvals including public and agency consultation, oversees park development and implementation, and provides ongoing reporting to project funders
- Water Risk Management evaluates and addresses erosion/undermining risks identified along the waterfront, including those located in waterfront parks
- Restoration and Regeneration and Biodiversity Monitoring contribute and collaborate in the development and implementation of Waterfront Parks to realize terrestrial and aquatic habitat opportunities and provide long term monitoring, respectively
- Greenspace Securement addresses property-related matters that may occasionally arise in the waterfront park development process
- Archaeology prepares any necessary documentation and First Nations engagement for waterfront park initiatives
- Community Engagement and Marketing and Communications assist with stakeholder engagement and public consultation

### *Key Outcomes*

- Reduced risk to human and ecosystem health
- Reduced risk to essential structures and infrastructure
- Reduced risk to safety and marine vehicles from sedimentation and hazards to navigation
- Improved terrestrial and/or aquatic habitat
- Improved outdoor experience and recreational use of the waterfront

### *Key Activities – 2018-2021*

- Continue development of the Scarborough Waterfront Project and Scarborough Bluffs West Environmental Assessments and subsequent implementation
- Undertake revitalization projects at Colonel Samuel Smith Park, East Point Park, and Marie Curtis Park including integration with the Arsenal Lands and the Lakeview Waterfront Connection Project
- Continue to advance the implementation of Rotary Frenchman's Bay Master Plan and the Humber Bay Parks Master Plan
- Facilitate Phase II of the Tommy Thompson Park Master Plan, including the transition of remaining lands to TRCA and the full opening of the park to the public
- Continue to advance the implementation of the Waterfront Trail and integration of Petticoat Creek Conservation Area with Frenchman's Bay
- Investigate the feasibility of providing increased watersport activities and other public amenities along the Western Beaches as part of any future breakwall repair
- Develop a waterfront working group as part of a TRCA citizen governance council

### **Outlook**

TRCA will continue to develop and revitalize waterfront park amenities and infrastructure in accordance with municipal interests and funding. No major changes to the function or operation of this program area are anticipated.

## Trails

### Objectives:

- More people engaging with nature more often
- More residents engaged more often in activities that help improve their health and well-being
- Increased opportunity and options for active transportation
- A network of greenspace that weaves through every community

### Program Features

#### *Positioning*

TRCA holds a long legacy of acquiring public land to protect and manage valley and stream corridors, flood plains, Lake Ontario shoreline lands, wildlife, vegetation and environmentally significant areas. The maintenance and expansion of the TRCA trails system provides sustainable nature-based recreation experiences for a growing population, supports healthy communities, facilitates the interpretation of natural and cultural heritage, and provides links with local neighborhoods and connections to surrounding watersheds and regions.

As one of the largest landowners in the Greater Toronto Area, TRCA is a leader in the planning, implementation and management of trails and associated infrastructure that provide safe, enjoyable recreational trail experiences for area residents and visitors. These offerings are developed such that the natural and cultural heritage resources are protected. TRCA's trail management activities also complement TRCA's aim to provide nature-based recreation experiences for a growing population while protecting and restoring the form and function of existing ecological systems. As the broader socio-ecological context of the region continues to change, TRCA management systems remain flexible and adaptable to these changes while remaining firmly rooted in environmental protection.

#### *Context*

TRCA owns and operates over 600 kilometres of local and inter-regional trails across its jurisdiction. These trails attract visitors and support tourism, serve as invaluable transportation links between other TRCA, municipal and community facilities, and provide a myriad of public health and well-being benefits and recreation opportunities to citizens. Trail assets must be managed in a manner that addresses TRCA's liability and risk, protects the natural and cultural heritage values for which the greenspaces were acquired, and also offers accessible and enjoyable recreation experiences.

TRCA and its municipal partners manage trails, conservation areas and parks, greenspaces, and education centres that are within communities, continuously linked along the ravine system, and ultimately linked with trails on the Lake Ontario shoreline, Oak Ridges Moraine, and Niagara Escarpment. Through the establishment of trail plans, TRCA employs best management practices and/or environmental stewardship to protect and conserve the valuable natural and cultural heritage attributes within each of its nine watersheds

#### *Stressors and Opportunities*

Faced with declining quality of much of the region's greenspace and increased demands on trail resources by a rapidly growing urban population, TRCA holds a current and pressing opportunity to rethink greenspace as an integrated system. This encompasses the opportunity to help develop a trail network within the Toronto region greenspaces that maximizes both community well-being and the protection of local ecosystems through thoughtful planning and action. Such a trail network will support citizen health and wellbeing through increased appropriate access to existing and enhanced greenspace in urban areas. To ensure the long-term, sustainable preservation and availability of greenspace assets, TRCA will continue to raise awareness of the need to invest in the long-term management and renewal of greenspaces and trail networks therein.

#### *Funding*

Funding for the Trails program is obtained primarily through contracted services and municipal levy.

### *Direct Actions and Activities*

In addition to developing and maintaining a jurisdiction-wide trail strategy and associated policies, this program includes site specific trail planning, development, management, assessment and monitoring activities. These initiatives are undertaken with the assistance of government and non-government staff, formal trail partners, and/or public volunteers and stewards.

### *Complementary TRCA Actions and Activities*

Trails are complemented by the following TRCA activities:

- The Greenspace Management program directly coordinates with Trails actions on lands where public access via trails is permitted
- Greenspace Securement initiatives bring new lands into TRCA ownership and facilitate local or regional trail connection objectives
- Conservation Parks and Field Centres include high-intensity public uses such as campgrounds, swimming facilities, and educational programming and facilities. The basic trail planning and management requirements for these greenspaces are still consistent with a broader trail and public recreation framework for all TRCA lands
- Community Engagement activities are involved in the development and implementation of trail plans and programs

### *Key Outcomes*

- A healthy and active community
- Address TRCA's liability and risk as a trail provider
- Provide safe, accessible, and sustainable trail opportunities where appropriate

### *Key Activities – 2018-2021*

- Publish and promote TRCA's Trail Strategy
- Complete an initial inventory of trails on new property acquisitions and greenspaces not previously assessed
- Ongoing audit of authorized trails
- Ongoing assessment and removal of hazards along authorized trails
- Coordinate and implement recommendations and deliverables stemming from trail planning, monitoring, and assessment activities including new trail construction, improvement of existing trails, trail re-routing, decommissioning, and restoration, and support for infrastructure and communications

### **Outlook**

At present, funding support for the Trails program is inconsistent across TRCA's jurisdiction. Where financial support is strong, trail planning, assessment, monitoring, construction, and management activities can continue to be robust, comprehensive and proactive. Efforts are required, however, to pursue long term maintenance and monitoring funding tied to capital trail development.

In regions where little or no support is provided, trail management activities include only the most basic hazard audits and mitigation necessary to permit safe public use on select trails with the remainder of trails closed to public access. The lack of stable funding jeopardizes comprehensive site securement and maintaining states of good repair on existing infrastructure. It also precludes the development of additional trail management or trail plans to proactively prepare for future public demand to access to greenspace. Alternative management and/or funding models must be sought for these regions if stable public funding is not forthcoming.

Despite the above concerns, TRCA continues to have some success in securing special project funding for trails on select TRCA lands as well as fee for service arrangements with municipal partners for trail planning, construction and monitoring. These elements of the business model are readily scalable as works undertaken each year are bounded only by available funding.

## **Black Creek Pioneer Village**

### **Objectives:**

- Preserve and promote cultural heritage
- Demonstrate community relevance
- Optimize attendance
- Increase financial sustainability

### **Program Features**

#### *Positioning*

Black Creek Pioneer Village (BCPV) is a living history museum located in the northwest end of Toronto. BCPV serves an important role of the City's cultural fabric by sharing with visitors the history of mid-nineteenth century village life in south central Ontario. As a popular Toronto heritage attraction, BCPV draws tourism traffic to its host community while carrying out diverse internal operations in support of its educational mandate.

#### *Context*

BCPV is situated at the southeast corner of Jane Street and Steeles Avenue in Toronto the site of the Stong family farm (1816 – 1958). TRCA recognized the cultural and historical value in the property and historic buildings on site, acquired the property, and opened Black Creek Pioneer Village to the public in 1960. By 1980, close to 40 heritage structures had been relocated to the site; a contemporary multi-use Visitors' Centre was constructed in 1984.

BCPV maintains a collection of approximately 50,000 artifacts. Site programming includes a diverse roster of public programs, special events, and exhibits. In the historic Village, costumed educators use artifacts, interactive activities, demonstrations, drama presentations, and heritage farm animals and gardens to engage and connect with visitors. BCPV is the largest museum of its kind in Toronto and attracts diverse audiences that include students, seniors, domestic and international tourists, new Canadians and families with children. BCPV is also used as a venue for weddings, corporate events, and a location for commercial filming and photography.

In addition to the primary BCPV site, TRCA also owns the Black Creek Pioneer Village North Lands located opposite the Village on the northwest corner of Jane Street and Steeles Avenue West. This property features the Dalziel Barn, which is one of the largest and oldest Pennsylvania barns in North America. Staff recently completed a Black Creek Pioneer Village North Lands Master Plan and Black Creek Pioneer Village Vision Framework to help direct future activities and developments at both the BCPV and Black Creek Pioneer Village North sites.

#### *Stressors and Opportunities*

As a steward of Canadian history and heritage, TRCA seeks to preserve BCPV's collections through ongoing maintenance and infrastructure improvements. These works include both minor alterations and substantial upgrades to ensure all structures and facilities meet accessibility requirements, are maintained in a state-of-good-repair, and support ongoing operations and program development. While maintenance and improvement of BCPV's heritage buildings support the viability of museum operations and the financial sustainability of the site, they also represent a growing fiscal responsibility borne largely by TRCA and the City of Toronto. Despite maintaining diverse revenue streams, the costs of building maintenance and improvements exceed revenue generation at BCPV. Financial analysis indicates that the removal, replacement, and/or significant retrofit of BCPV's structures is a more viable option than continued maintenance and upgrades.

TRCA recognizes BCPV's financial situation as an opportunity to pursue new funding opportunities and develop more innovative programming. However, as these opportunities are identified, TRCA needs to consider the constraints, higher sunk costs, and higher risk associated with activities at BCPV as compared to more contemporary sites. On the whole, this increased risk presents an obstacle in TRCA's search for more lucrative business models and offerings. At present, TRCA is exploring the possibilities and limitations associated with the branding of goods, services, and experiences linked to BCPV's narrative and public image. TRCA will continue to pursue licensing, co-branding, and/or co-production opportunities with commercial

enterprises to increase revenue generation and the public's awareness of BCPV while seeking additional opportunities for promotion and business development.

#### *Funding*

Funding for Black Creek Pioneer Village is obtained primarily through general levy and user fees.

#### *Direct Actions and Activities*

BCPV offers year round public programs, special events and exhibits that host approximately 70,000 general public users and 50,000 school children each year. BCPV is open to the public between May 1<sup>st</sup> and December 23<sup>rd</sup>, during March Break, and for education tours and private bookings year-round.

The Village programs include hands-on activities, interactive demonstrations, guided tours and drama performances. Annually, the site hosts approximately 15 special events including the Pioneer Harvest Festival and Christmas by Lamplight. Throughout the year, BCPV offers education programs for school groups, historic workshops, apprenticeship programs, and exclusive activities for members. BCPV's McNair Gallery shares its historic collection through permanent displays and temporary exhibits. BCPV also partners with other arts, heritage, and cultural organizations to curate and present unique annual exhibits. The Black Creek Pioneer Village Gift Shop offers souvenirs, local and hand-made items, traditional candy and sweets, prepared foods, housewares and seasonal decor, books, children's toys, and other goods for sale.

#### *Complementary TRCA Actions and Activities*

Black Creek Pioneer Village is complemented by the following TRCA activities:

- Education and Outreach, Family Programs, Events and Festivals, and Wedding and Corporate Events co-produce programming and coordinate activities at BCPV that cater to diverse users and enhance visitor experience
- Conservation Parks offers a joint membership to encourage visitation to TRCA's conservation parks, Black Creek Pioneer Village, and the conservation areas of Credit Valley Conservation

#### *Key Outcomes*

- The natural, cultural, and built heritage of the Toronto region is preserved and shared with the public
- Visitors are offered interactive and engaging museum experiences at BCPV
- Visitor demographics demonstrate maintained or enhanced demographic diversity
- Strategic partnerships and promotions lead to greater awareness of BCPV, increased site visitation, increased revenue generation, and greater financial sustainability

#### *Key Activities – 2018-2021*

- Continue to develop, fundraise for, and implement the new Black Creek Pioneer Village Vision and Black Creek Pioneer Village North Lands Master Plan
- Continue ongoing site programming, conservation, and maintenance activities
- Continue to examine the costs, revenues, and attendee demographic profile of BCPV to identify service refinement opportunities
- Continue to increase and diversify attendance, reduce barriers to access, and seek increased relevance to the local community
- Effectively market unique BCPV branded products, services, and experiences, including increasing partnerships with commercial entities

## **Outlook**

TRCA will continue to pursue financial sustainability at BCPV through improvements to existing business models and the development of new revenue streams. Continued investment in human, technological, and financial resources will streamline and support BCPV daily operations through enhanced project management and technological and operational efficiencies.

TRCA is currently working on raising funds for and implementing the Black Creek Pioneer Village Vision and Black Creek Pioneer Village North Lands Master Plan. The Black Creek Pioneer Village North Lands Master Plan recommends improvements to flood control measures, protection of existing heritage structures, introduction of interactive programs on site, and the creation of three precincts: natural heritage, cultural/agricultural heritage, and a commercial development site. The Black Creek Pioneer Village Vision incorporates the recommendations of the Black Creek Pioneer Village North Lands Master Plan while outlining detailed objectives for the creation of a more engaging and innovative Village experience. Immediate next steps include implementing a fundraising campaign, completing a detailed business plan (including a marketing plan and an operating budget), completing an interpretive plan, and implementing key projects associated with the Black Creek Pioneer Village Vision and Black Creek Pioneer Village North Lands Master Plan.



## **Bathurst Glen Golf Course**

### **Objectives:**

- Provide sustainable and accessible nature-based recreation and tourism experiences for residents and visitors
- Enable behaviours that foster individual and social health and well-being, including:
  - Active living through active recreation; and
  - Connections to nature through recreation
- Deliver high quality customer experiences and increase visitation in support of an eco-tourism economy
- Ensure financial sustainability and promote sustainable growth
- Protect and restore ecosystem health and function

### **Program Features**

#### *Positioning*

Bathurst Glen Golf Course (BGGC) is a golfing facility that encourages the use of the natural environment for recreational purposes while fulfilling TRCA's mandate to protect and enhance the natural environment. TRCA operates BGGC as a condition of the Ministry of Natural Resources (now Ministry of Natural Resources and Forestry) agreement that delegates TRCA management responsibility for Oak Ridges Corridor Conservation Reserve.

#### *Context*

Situated within Oak Ridges Corridor Conservation Reserve, the BGGC facility includes an 18-hole executive course and driving range, programming, a pro shop, rentals, and food services to support and enhance attendee experiences. Bathurst Glen holds Audubon Cooperative Sanctuary Program certification in recognition of its support of terrestrial habitat and environmental integrity objectives.

#### *Stressors and Opportunities*

Executive golf courses in or near Richmond Hill compete with BGGC for local clients. The ongoing development of innovative and unique products and playing opportunities encourage attendance and repeat visits.

BGGC holds opportunities to build upon its existing clientele through the development of loyalty programs and new value-added programming. Client-based opportunities include the development of new partnerships with school groups, day camps, and youth groups that build upon its established coaching offerings. Partnership opportunities within the community, and also within TRCA's existing mix of recreational programming, may also be pursued to enhance BGGC offerings and financial sustainability.

The Audubon Cooperative Sanctuary certification process requires that BGGC be recertified every three years. BGGC implements best management practices and weaves the protection of the natural environment into education opportunities for its community of users. Through these actions, it is hoped that the community will become increasingly knowledgeable and engaged in the sustainable management of land, water, wildlife, and other natural resources. As biotic and abiotic environmental stressors increase, however, their combined effects may have a detrimental effect on the health and quality of BGGC's natural environment and standing within the Audubon program.

#### *Funding*

Funding for BGGC is obtained through user fees, with the Province of Ontario covering the costs of the management of Oak Ridges Corridor Conservation Reserve through a provincial levy.

#### *Direct Actions and Activities*

BGGC's golf course and the driving range facility currently serve over 50,000 clients annually including adults, youth, and school groups. In addition to playing opportunities, BGGC offers adult and youth coaching

programs, skills development clinics, introductory programs for new Canadians, and other focus clinics throughout the season.

The BGGC environmental program hosts three community planting and monitoring events throughout the year. These activities engage approximately 50 volunteers in the planting of shrubs, installation of nest boxes, and construction of pollinator habitat. Additional interpretative hikes and group discussions are attended by local community members and interest groups. An educational component (based around the Audubon Cooperative Sanctuary Program) is delivered to junior camps and teaches junior golfers about the importance of the natural environment and environmental management. Outside of public programming, BGGC internal operations have reduced pest control usage by 80% and water consumption by 20%.

#### *Complementary TRCA Actions and Activities*

- Restoration and Regeneration assists in the development and maintenance of quality terrestrial habitat

#### *Key Outcomes*

- Provide positive and memorable outdoor recreational experiences
- Develop a sense of well-being through community contribution to the natural environment
- Improve aquatic and terrestrial habitat
- Enhance financial sustainability through partnerships and business development
- Maintain or enhance demographic diversity of users
- Human health benefits from active living opportunities

#### *Key Activities – 2018-2021*

- Continue developing partnerships within the community and with TRCA's other service groups
- Continue public engagement and education on best management practices, including planting and monitoring events with the local community
- Continue to implement best management practices to encourage wildlife habitat and protect natural resources for the benefit of the community, wildlife, and recreation

#### **Outlook**

The implementation of best management practices in sustainability, including maintaining Audubon Cooperative Sanctuary certification, will continue to be a priority as TRCA seeks to demonstrate leadership, commitment and high standards of environmental management in the golfing industry. In addition to independently pursuing increased customer experiences and offerings, TRCA will also focus on the creation of new partnerships - both within the community and in association with TRCA's other recreational offerings - to increase both customer experience and the facility's financial sustainability.

## Events and Festivals

### Objectives:

- Promote positive behavioural change that fosters individual and social health and well-being
- Enhance access to nature-based recreational experiences
- Financial sustainability
- Optimized event and festival attendance

### Program Features

#### *Positioning*

Events and Festivals promote community involvement and recreation in TRCA's natural spaces while generating revenue that supports TRCA's program delivery and financial sustainability. With significant experience delivering festival and event programming, TRCA is able to host and promote large-scale events in manner that maximizes revenue and engagement, enjoyment, learning, and customer satisfaction.

#### *Context*

TRCA owns many public use facilities including nine conservation areas, three campgrounds, Bathurst Glen Golf Course, Black Creek Pioneer Village, and the Kortright Centre for Conservation. These sites host various annual events and festivals - many of which are organized in collaboration with TRCA partners. The majority of TRCA's facilities possess the capacity to host single and multi-day festivals and events without the need for significant additional site staffing or infrastructure.

TRCA public use facilities are accessible during their respective operating seasons and most charge a modest entrance fee for general admission. The majority of events and festivals at TRCA facilities can be enjoyed with the payment of general admission, while others require advance ticket purchases or the payment of a special admission fee. Events and festivals do not affect general site access to TRCA facilities.

#### *Stressors and Opportunities*

Events and festivals are most frequently hosted at TRCA conservation parks and other TRCA sites with public amenities. To the greatest extent possible TRCA manages the site impacts of these events – in particular those hosted by private external organizations – to mitigate and minimize negative accessibility and experience outcomes for other site users. As open areas and greenspace become less available, TRCA expects an increase in site requests from organizations seeking events and festival space. Successful balancing of competing user group demands will be required to ensure TRCA continues to deliver high quality experiences for all.

#### *Funding*

Events and Festivals program is funded through admission fees and consistently generate profit. Admission fees (general or special rate) are charged on TRCA event and festival days.

#### *Direct Actions and Activities*

Events and festivals hosted by TRCA may align with broader socio-cultural themes and practices, and/or support education and learning, but are not specifically designed for educational purposes. The main objective of TRCA events and festivals is to engage the public and introduce them to TRCA facilities, offer entertainment value, promote celebration and enjoyment, and provide opportunities for people to experience nature in fun and interactive ways that develop an appreciation for the value of the natural environment. TRCA hosts approximately 40 events annually with an estimated 120 days of events each year. Canada 150 programming is anticipated to increase the quantity, diversity, and/or scale of Events and Festivals produced in 2017 as well as to motivate the incorporation of Canada 150 themes into new and existing programming.

Private events, for which TRCA rents out the use of venues, land, or both, include adrenaline races, corporate events, and weddings. Approximately 350 private events are conducted each year at Kortright Centre for Conservation and Black Creek Pioneer Village.

### *Complementary TRCA Actions and Activities*

Events and Festivals are complemented by the following TRCA activities:

- Conservation Parks and Black Creek Pioneer Village provide venues for events and festivals
- Education and Outreach may provide programming to support events and festivals when requested

### *Key Outcomes*

- Event and festival participants garner experiences leading to improved indicators with respect to:
  - Citizenship behaviors, including environmental stewardship and social cohesion
  - Health and wellness outcomes
- Revenue generation from event and festival activities

### *Key Activities – 2018-2021*

- Business development to promote TRCA's conservation parks as ideal event and festival rental venues
- Continued planning and delivery of existing annual events and festivals
- Continued engagement with, and implementation of, master plans and vision plans for TRCA facilities that create festival and event sites

### **Outlook**

TRCA will continue to work with internal and external proponents to promote its public use facilities as festival and event venues. With a focus on promoting a greater number of space and venue rentals, TRCA will continue to secure revenue to fund programming and operations while contributing to organization growth and financial sustainability.

## Wedding and Corporate Events

### Objectives:

- Provide access to natural spaces for private events
- Increase financial sustainability
- Optimize wedding and corporate events attendance

### Program Features

#### *Positioning*

TRCA utilizes existing landholdings and infrastructure to host formal occasions in natural spaces. Revenues generated through the hosting of such events are applied in support of TRCA program delivery and financial sustainability.

#### *Context*

TRCA owns nine conservation areas, Bathurst Glen Golf Course, Black Creek Pioneer Village, and Kortright Centre for Conservation. Many of these sites offer a range of wedding and corporate venue amenities and options that include sheltered picnic areas, open greenspace, indoor meeting rooms, and outdoor event spaces. TRCA's larger event venues are equipped with kitchen facilities and food preparation spaces. Site facilities possess the capacity to host single and multi-day events without the need for significant additional site staffing or infrastructure.

Private events held at TRCA facilities do not impact general public access to the site. Further, public access to TRCA facilities during operating hours is never strictly prohibited during public or private events.

#### *Stressors and Opportunities*

TRCA manages private events hosted at its venues to ensure that both private clients and public users have high quality experiences during their visit. TRCA minimizes the potential impacts of private events on public access by employing event planning and management tactics and facilitating regular communication between operations and events staff. TRCA expects an increase in site requests for wedding and event bookings at TRCA facilities as open areas and greenspace across the GTA become less available.

#### *Funding*

Weddings and corporate events are self-funding and consistently generate profit for TRCA.

#### *Direct Actions and Activities*

TRCA provides venues and, as requested and available, food preparation services for weddings and corporate events. TRCA may provide education and/or learning programs as part of an event if requested to do so.

#### *Complementary TRCA Actions and Activities*

The Weddings and Corporate Events program is complemented by the following TRCA activities:

- Black Creek Pioneer Village, Bathurst Glen Golf Course, and Conservation Parks provide host sites and facilities

#### *Key Outcomes*

- Wedding and Corporate Events bookings generate revenue for TRCA
- Wedding and Corporate Events attendees have positive experiences at TRCA facilities

### *Key Activities – 2018-2021*

- Business development to promote TRCA's facilities as ideal destinations for wedding and corporate events
- Continued commitment to service excellence to ensure customer experience satisfaction
- Continued engagement in the development and implementation of TRCA facility master plans and vision plans as they relate to the creation of wedding and corporate event facilities and venues

### **Outlook**

TRCA will continue to work with internal and external proponents to promote its diverse public use facilities as ideal locations to host weddings and corporate events. With a focus on promoting a greater number of space and venue rentals, TRCA will continue to secure revenue to fund programming and operations while contributing to organization growth and financial sustainability.

## ***Planning and Development Review***

Planning and Development Review is the administration and implementation of TRCA's legislated and delegated roles and responsibilities in the planning and development approvals process. TRCA's role in this process as a public commenting body, provincially- delegated reviewer for natural hazards, service provider, regulatory authority, resource management agency and landowner is guided by board-approved policies to further the conservation, restoration, development and management of natural resources. These policies are consistent with the requirements of federal, provincial and municipal legislation and incorporate the latest science revealed through TRCA's integrated watershed research to inform municipalities and other approval authorities. TRCA's input in municipal decision making guides growth, redevelopment, revitalization and intensification throughout TRCA's jurisdiction.



***Policy Development and Review***



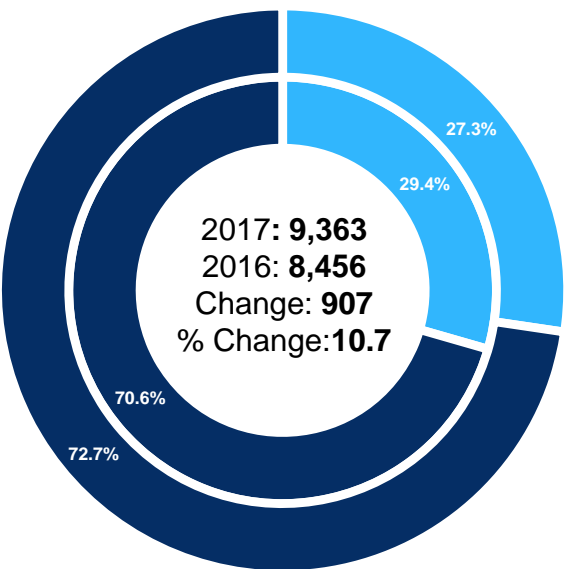
***Development Planning and Regulation Permitting***



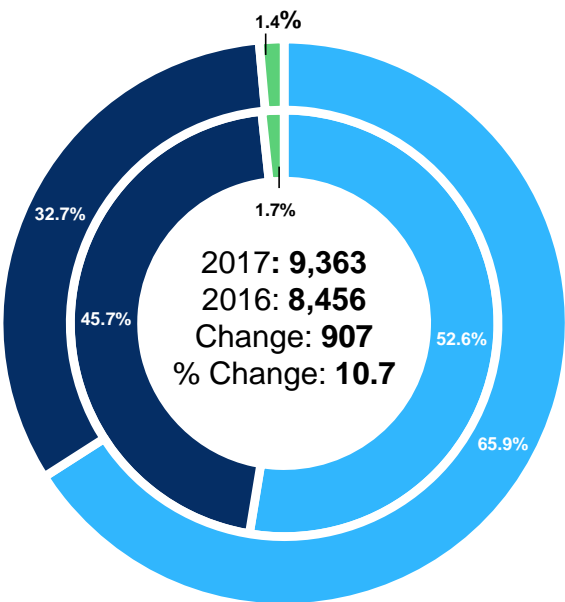
***Environmental Assessment Planning and Permitting***

# Planning and Development Review

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA's 2017 budgeted figures and the inner ring represents TRCA's 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other

Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other



## Policy Development and Review

### Objectives:

- Implement an integrated watershed-based approach within the existing planning policy framework
- Identify and/or develop best-practices and policies for advancing sustainability principles within planning and development processes
- Ensure the best available science and planning practices, including integrated watershed management, are incorporated into local, regional, and provincial/national planning and decision making processes
- Prevent, eliminate, or reduce the risk to life and property from flooding and erosion
- Improve watershed health

### Program Features

#### *Positioning*

TRCA holds legislated and delegated roles in planning, is a commenting body in development and environmental assessment approvals processes, is a provincially delegated reviewer for natural hazards, and is also a service provider, regulatory authority, resource management agency, and landowner. Policy and Development Review provides in-house expertise to ensure TRCA operates at the state-of-practice with respect to policy and legislation development, review, application, and response.

#### *Context*

TRCA's jurisdiction includes nine watersheds, 67 kilometres of the Lake Ontario shoreline, 15 provincially designated Special Policy Areas (SPAs), 42 flood vulnerable areas (FVAs), and 18 lower, upper and single tier municipal governments.

Almost without exception, TRCA's jurisdiction (including SPA's and FVAs) is under pressure from redevelopment, intensification, and growth planning exercises. In response, TRCA provides input to the municipal policy development and decision making processes that guide growth, redevelopment, and intensification throughout TRCA's jurisdiction. TRCA guidance and responses are informed by The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (LCP). The LCP document is consistent with the requirements of federal, provincial and municipal legislation including the Ministry of Natural Resources and Forestry's 'Policies and Procedures for CA Plan Review and Permitting Activities'. Based on state-of-the-science watershed research, monitoring, and management practices, the LCP meets provincial natural hazard, natural heritage and water management policy interests while contributing to high quality urban design in municipal growth planning and the advancement of the green economy.

LCP implementation is supported by TRCA's Planning and Development Procedural Manual; this document includes a suite of technical guidelines and checklists to assist landowners, developers and applications through the planning and regulatory process and ensure quality service to stakeholders.

#### *Stressors and Opportunities*

TRCA is frequently faced with requests for complex policy, development, and infrastructure reviews associated with rapidly developing greenfield communities, intensifying urban centres, and the revitalization of historic communities within flood vulnerable areas. This complexity is compounded by multiple layers of federal, provincial, and municipal plans, policies, and regulations as well as diverse and pressing stakeholder considerations. Municipal partners and provincial ministries are increasingly requesting TRCA's expertise to assist with complex projects. Provided TRCA funding can sustain senior technical and project management capabilities at sufficient levels, TRCA's participation in these requests represent an important opportunity to integrate TRCA, municipal, and provincial objectives into the design and realization of healthy, resilient, and climate adaptive communities.

#### *Funding*

Policy Development and Review is funded solely through municipal levy.

### *Direct Actions and Activities*

Policy Development and Review ensures that TRCA's Planning and Development service area is supported by a current policy framework. This includes maintaining the Planning and Development Procedural Manual in support of the LCP, developing and updating technical guidelines/checklists to reflect current watershed science and best management practices, and developing streamlined protocols for planning and permitting processes in addition to supporting policy development and review.

Planning ecology and compliance teams provide technical support and enforcement capabilities for all Planning and Development program areas.

In support of TRCA's *Conservation Authorities Act* (Section 28) permitting responsibilities, TRCA planners, ecologists and engineers apply analytic expertise to new technical information that might affect the screening of permit applications and assessment of planning and development activities. Information reviewed - and the implementation products and tools thereof - are used by municipal partners in official plans and zoning by-law updates. TRCA expertise also informs municipal growth, intensification and redevelopment/revitalization studies. In addition, Policy Development and Review coordinates the internal expertise required in the development of comprehensive long-term strategies and solutions to manage the flood risk in Special Policy Areas and Flood Vulnerable Areas.

TRCA proactively responds to emerging planning and regulatory trends and issues. External environmental policy advisory services include participation on federal, provincial, municipal and Conservation Ontario initiatives, committees, and special projects. Where appropriate and/or necessary, TRCA acts as a convener or liaison between government partners to ensure coordination and consistency.

TRCA reviews municipal official plans, secondary plans, zoning by-laws, and participates on steering committees for a variety of municipal planning and policy initiatives. Ongoing training and support is provided to municipalities in support of the Memorandum of Understanding for the provision of policy, planning and technical expertise and the implementation of the LCP. Similar ongoing training is provided to TRCA staff and stakeholders (BILD (Building Industry and Land Development Association), public, etc.) on topics related to planning and regulatory functions and services and development trends and issues.

### *Complementary TRCA Actions and Activities*

Policy Development and Review is complemented by the following TRCA activities:

Watershed Planning and Reporting, Climate Science, Water Resource Science, Flood and Erosion Management, Ecosystem Management Research and Directions, and Restoration and Regeneration inform the development of the LCP

### *Key Outcomes*

- Policy, planning and technical needs of TRCA and its municipal partners are adequately supported
- TRCA planning and integrated watershed science, engineering/ecology/technical insights are reflected in municipal official plans, strategies, growth planning exercises and other relevant studies, documents and projects
- Negative impacts of new development, urban intensification and revitalization on water quality, erosion, flood risk and ecosystems are minimized or eliminated
- Planning and Development Review processes yield healthy, sustainable communities resilient to the effects of urbanization and climate change and that possess an effective regional transit systems that incorporate active transportation through a connected greenlands system

### *Key Activities – 2018-2021*

- Continue policy development and review to support TRCA's legislated, mandated and delegated responsibilities in policy, planning and environmental review, permitting, and construction compliance
- Work cooperatively with municipal partners to incorporate the latest science as secured through TRCA's integrated watershed research into municipal policies in order to guide growth, redevelopment, and intensification throughout TRCA's jurisdiction
- Provide environmental policy advisory services through participation on provincial, municipal and Conservation Ontario policy related initiatives, committees and special projects to facilitate current and responsive approaches to emerging planning and regulatory trends and issues within TRCA's watersheds

### **Outlook**

TRCA's Policy Development and Review function is expected to continue supporting TRCA's legislated and delegated roles and responsibilities in the planning, development, and environmental assessment approvals process. With the Province of Ontario currently reviewing several of the acts and plans related to planning and development, as well as and the Ministry Natural Resources and Forestry having initiated a review of the *Conservation Authorities Act*, Policy Development and Review will continue engaging in these review processes and seek to ensure that TRCA interests are represented. Legislative updates or amendments arising from these provincial review processes that hold implications to TRCA roles and responsibilities will be incorporated into the appropriate TRCA policies, procedures and guidelines.

## Development Planning and Regulation Permitting

### Objectives:

- Prevent, eliminate, or reduce the risk to life and property
- Protect Toronto region's physical and natural heritage in community building
- Ensure the best available science, planning, and design practices - including integrated watershed management - are incorporated into ongoing planning and development permitting approvals
- Facilitate TRCA's acquisition of land containing important natural features and/or natural hazards
- Deliver a helpful and knowledgeable customer experience

### Program Features

#### *Positioning*

TRCA derives responsibility for development and construction proposal review from the *Conservation Authorities Act*, Section 28, Ontario Regulation 166/06, as amended, and subsequent provincial and municipal memoranda of understanding. Projects reviewed range from individual site permits to major development and city building initiatives. As natural hazard and natural feature experts in the planning and development process, TRCA provides technical expertise to its municipal partners and serves as a public commenting agency to municipal and provincial governments. When required or requested, TRCA defends municipal partner policies and environmental interests at Ontario Municipal Board hearings.

Through community planning and permitting processes TRCA seeks to acquire, protect and enhance areas that contain natural hazards and/or significant natural heritage features. Under provincial policy, lands containing such features are not eligible for development and, as a result, are negotiated into the public realm for open space and green infrastructure purposes.

For private sector clients, TRCA offers a value-added solicitor-/realtor service to respond to requests regarding TRCA's interest in specific lands prior to real estate transactions.

#### *Context*

Natural hazard features within TRCA's jurisdiction include major ravine systems and attendant slope stability issues, creek erosion, river meander belts, 67 kilometres of Lake Ontario shoreline, and 21,448 hectares (53,000 acres) of regulated floodplain.

Development Planning and Regulation Permitting operates in accordance with, and through delegated authority for all or parts of, the *Conservation Authorities Act*, Ontario Regulation 166/06, as amended: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses, the *Planning Act*, Provincial Policy Statement, *Environmental Assessment Act*, and memoranda of understanding between the TRCA municipal and provincial governments. TRCA planning and permitting functions specifically extend to development proposed in Special Policy Areas and Flood Vulnerable Areas. TRCA also advises municipal partners on applications made under the *Niagara Escarpment Planning and Development Act*, *Oak Ridges Moraine Conservation Act*, *Greenbelt Act*, and other applicable legislation.

#### *Stressors and Opportunities*

According to the Ministry of Finance, the "...Greater Toronto Area (GTA) is projected to be the fastest growing region of the province, with its population increasing by over 2.8 million, or 42.9 per cent, to reach almost 9.5 million by 2041. The GTA's share of provincial population is projected to rise from 48.0 per cent in 2015 to 52.7 percent in 2041".<sup>1</sup> In managing this growth and demand, TRCA and its municipal partners will be challenged to mitigate the regional-scale risk to public health that arises from long-term and/or permanent ecosystem damage. Examples of such risk include degraded surface and ground water, loss of forests and wetlands, and diminished biodiversity. Acute natural hazard risks, in particular those posed by downstream flooding, may also increase along with attendant risks to natural, social, and economic systems and assets.

Current trends indicate that development pressure will continue to advance toward and into the headwaters of TRCA's jurisdiction. Should development and urbanization disrupt headwater hydrology or hydrogeology,

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<sup>1</sup> <http://www.fin.gov.on.ca/en/economy/demographics/projections/>

significant downstream effects including compromised groundwater storage and drastically altered river/creek flow regimes may be expected. Such changes could result in impacts to public safety, significant infrastructure costs to downstream municipalities, and economic losses to individual landowners as natural features are degraded. TRCA integrated environmental planning and technical input preemptively addresses cumulative impacts that would otherwise threaten existing neighborhoods and potential growth for new communities.

#### *Funding*

The Development Planning and Regulation Permitting function is operated on a fee-for-service basis supplemented minimally by general levy. The program currently operates at a planned 100% cost-recovery based on the 2016 fee schedule. Fees are adjusted every two years to reflect shifts in workload.

#### *Direct Actions and Activities*

Ongoing Toronto region urbanization resulted in 856 new planning and 1,301 new permit applications in 2016; these applications continue to increase in complexity as lands with multiple environmental sensitivities become sufficiently valuable to attract development interest. Over 25 new communities planned as part of growth initiatives are also currently under review.

Planning and ecology expertise provides recommendations on how development should proceed and how to maintain, enhance or restore the natural environment. Decisions are made after engaging TRCA's in-house water resource engineering, hydrology, geotechnical engineering and ecology experts. Development proposals and applications within, or adjacent to, natural areas and natural hazards are also reviewed to ensure consistency in the application of the *Planning Act*, the *Conservation Authorities Act* and the Provincial Policy Statement.

Development Planning and Regulation staff also review permit applications made under Ontario Regulation 166/06, as amended. By applying the "tests" of the regulation within or adjacent to natural areas and natural hazards, staff provide direction to landowners, developers, and their respective consultants to ensure there is no impact to flooding, erosion, dynamic beaches, pollution, or the conservation of land.

Through the planning process, lands unsuitable for development due to the presence of natural hazards and/or significant natural features may be identified. Development Planning and Regulation staff may identify these lands as appropriate for acquisition under the TRCA's The Living City Policies and/or greenlands acquisition project. In such scenarios, Planning and Development staff broker introductions between landowners and/or developers and TRCA Property staff to facilitate conveyance of these lands to TRCA at nominal cost.

As required, TRCA seeks to manage natural hazards, protect natural heritage features, and represent the environmental interests of the Province of Ontario and its municipal partners at Ontario Municipal Board (OMB) hearings.

#### *Complementary TRCA Actions and Activities*

Development Planning and Regulation Permitting is complemented by the following TRCA activities:

- Planning and Policy work with municipal and other government partners to ensure the best available science, planning, and design expertise are incorporated into relevant plans, policies, and strategies
- Environmental assessment planning ensures coordination between public infrastructure works and private development projects
- Water Resource Science and Biodiversity Monitoring provide data and analysis in support of defensible planning and permitting decisions
- Watershed Planning and Reporting synthesizes watershed conditions and provides ecosystem-scale perspectives on watershed opportunities and vulnerabilities
- Property and Risk Management staff completes land transactions for properties identified for conveyance to TRCA
- Restoration and Regeneration assesses and implements restoration needs on acquired sites and implements erosion control works where municipal funding is secured

### *Key Outcomes*

- Prevent, eliminate, or reduce the risk to life and property
- Protect and enhance Toronto region's physical and natural heritage
- Ensure the best available science, planning, and design practices, including integrated watershed management, are incorporated into ongoing community planning and development permitting
- Facilitate TRCA's acquisition of land containing important natural features
- Deliver a quality customer experience

### *Key Activities – 2018-2021*

- Implement an integrated watershed-based approach to planning and permit review that adds value to existing and future policy frameworks and aligns with sustainable community objectives
- Work cooperatively with municipal, provincial, and development stakeholders in the implementation of TRCA's planning and regulatory function
- Increase procedural transparency and streamline review and approval processes
- Provide environmental planning and technical expertise and information in the areas of ecology, water resources engineering, geotechnical engineering, hydrogeology, archaeology, property services, research and development, conservation lands, restoration services and watershed management in accordance with legislated planning and permitting responsibilities

### **Outlook**

Development Planning and Regulatory Permitting is expected to continue functioning in a manner similar to current operations with enhanced collaboration across divisions. Collaborative efforts will continue between TRCA and municipal partners to develop and integrate strategies for watershed protection, ecological design, and other sustainability considerations into land use planning. To meet 100% cost-recovery objectives, TRCA will update its application fee schedule in 2018 and 2020; it will also concurrently pursue internal process and information technology enhancements that increase operational efficiency and/or customer experience.

## Environmental Assessment Planning and Permitting

### Objectives:

- Protect and enhance the Toronto region's physical, natural, and cultural heritage
- Ensure that the best available science and planning practices, including integrated watershed management, are incorporated into infrastructure planning and development permitting
- Prevent, eliminate, or reduce the risk to life and property from flooding, erosion, and other natural hazards
- Deliver a high quality customer experience
- Develop solutions that are both environmentally sensitive and fiscally conscientious

### Program Features

#### *Positioning*

TRCA is a commenting agency under environmental assessment legislation including the *Ontario Environmental Assessment Act* and *Planning Act*, and a regulator under the *Conservation Authorities Act*. These roles position TRCA to offer value-added environmental assessment consulting services that reduce proponent uncertainty and risk. TRCA's pre- and post-submission environmental assessment review and permitting services are extended to public and private proponents on a fee-for-service or contract basis. By entering into dedicated service agreements and operating on a full cost-recovery model, TRCA is able to maintain and provide dedicated review teams; review teams ensure that high levels of in-house expertise are available such that faster and higher quality service can be provided to all clients.

#### *Context*

Environmental assessments (EAs) are undertaken when a project has the potential for negative environmental, social, and/or economic impacts. The public and private infrastructure projects currently undergoing environmental assessment within TRCA's jurisdiction reflect a notable era of growth-related infrastructure that includes roadways, highways and transit systems, oil and gas pipelines, and water and wastewater services. Numerous major infrastructure projects are underway in each of TRCA's partner municipalities.

For municipal projects, TRCA is a commenting agency under the *Ontario Environmental Assessment Act* and *Planning Act*, and issues construction permits under Section 28 of the *Conservation Authorities Act*. Under *Ontario Regulation 166/06, as amended*, TRCA reviews and approves detailed designs associated with approved EA projects. For proponents for whom TRCA permits are non-binding, such as crown agencies, TRCA may undertake a Voluntary Project Review (VPR) to ensure similar standards of review and evaluation are applied to areas of public interest.

Where events or circumstances pose an immediate and dire risk to municipal infrastructure, TRCA follows its *Permission for Emergency Infrastructure Works Protocol*. Under this condition TRCA provides support and permitting to partner agencies in the absence of a full, pre-construction environmental assessment. Projects considered both minor and routine are subject to TRCA's *Permission for Routine Infrastructure Works Protocol*. EA Planning and Permitting also follows the TRCA delegated permit approval process, and issues many permits through staff as authorized to do so by the Executive Committee.

While projects governed by the municipal Class Environmental Assessment and Transit Project Assessment processes represent approximately 70% of TRCA's environmental assessment work load, TRCA also reviews projects under the Individual Environmental Assessment process as well as the various Class Environmental Assessment processes, exemption regulations for private and public clients, and other types of environmental regulatory legislation that apply to other infrastructure providers, such as the oil and gas industry, telecommunications, etc. These other projects may or may not be subject to permits in accordance with TRCA's Regulation; if they are not, the VPR option for TRCA's continued review at the detailed design stage is made available.

#### *Stressors and Opportunities*

Climate change scenarios for the Toronto region include the increased frequency and duration of intense storm events that pose attendant risks to public and private infrastructure. Increased stormwater flows and flooding is expected to increase the frequency of repair and renewal for failed or vulnerable municipal infrastructure.

Because of the historical practice of locating infrastructure in valleylands - a practice no longer permissible for current-day infrastructure twinning or replacement - environmental assessments for infrastructure replacement often include infrastructure relocation considerations. Infrastructure relocation stressors have already increased and are expected to continue increasing the complexity and workload associated with environmental assessment and permit file review.

Current federal and provincial growth and economic strategies have focused on infrastructure development and renewal required to accommodate the growth projections, and are also a preferred source for economic stimulus spending. This enhanced infrastructure creation and renewal process poses many advantages for municipalities and citizens and has resulted in considerable growth in the demand for environmental assessment associated with these projects. Environmental assessments proceed on irregular schedules involving multiple stages and involve high variability in staffing expertise and intensity/duration of effort. In the absence of adequate staff capacity, fluctuating demand will result in the inability to provide expedited reviews during peak workload periods. Operational stressors such as these will increase with the increased pace of growth pressures, complexity, and workload associated with environmental assessment and permit file review. Creative streamlining measures, funding for technical reviewers and new working relationships will require continued development to ensure service delivery standards are maintained and, in some cases, enhanced to meet the requirements of infrastructure providers.

### *Funding*

Environmental Assessment Planning and Permitting is operated on an at-cost, fee-for-service, full-cost recovery basis. Clients with a high volume of EA projects, and/or those who face time constraints, have the option of entering into Service Level Agreements with TRCA to ensure project needs are met. This funding model increases TRCA's overall capacity to ensure a complete planning and technical review staff complement, provide continuous improvements to service delivery processes and timelines, increase knowledge and partnerships, and reduce wait and review times. Fees are updated biannually, and subject to approval by the board. Staff undertakes a detailed review of fees, including a review of the service delivery specifications, estimated staff time required per item, and inclusion of an accurate and inclusive staff chargeout rate. Service Level Agreements are updated every two to five years, depending on the agreement specifications. Updates include a review of service delivery commitments, timing, and budget estimates. Budget estimates are provided to clients on an annual basis, generally in the spring of the preceding year, so that the costing can be incorporated in the partners' internal budgeting process.

### *Direct Actions and Activities*

Environmental Assessment Planning and Permitting reviews environmental assessment documents and applications to ensure the best available science and planning practices are incorporated. This function is supported by TRCA expertise in environment assessment and land use planning, ecology, water resources engineering, hydrogeology, geotechnical engineering, and watershed management. Document review activities are supported by technical and regulatory staff site visits, to enhance recommendations and ensure permit compliance in the project planning and implementation phases, respectively.

Comments and recommendations are provided to proponents under fee-for-service or dedicated service agreement arrangements. TRCA currently holds seven dedicated service agreements with proponents; this model enables public and private sector clients to mitigate EA procedural uncertainty and risk for high volume and/or time constrained projects. Dedicated service agreements also provide TRCA with more accurate estimates of the type and intensity of pending EA submissions and, in turn, reduce the risks of under-staffing. It is recognized that environmental assessment and permitting review can be politically complex and that both the public and development community often have a vested interest in outcomes. Service delivery approaches recognize these complexities.

In addition to dedicated service agreements, EA Planning and Permitting reviews projects for an additional 12 municipal clients, and a variety of utility, oil and gas companies; provincial ministries, the federal government, and private developers on a fee-for-service basis.



### *Complementary TRCA Actions and Activities*

Environmental Assessment Planning and Permitting is complemented by the following TRCA activities:

- Policy Development and Review works with municipal and other government partners to ensure that the best available science, planning, and design expertise are incorporated into relevant plans, policies, and strategies, and to oversee permit compliance and enforcement activities
- Water Resource Science, Biodiversity Monitoring, Watershed Planning and Reporting, and Climate Science provide the evidence-based analysis to support the application of an integrated watershed perspective in the EA process
- Erosion Management, Restoration and Regeneration, and Greenspace Securement and Management provide technical expertise that support the success of risk mitigation, compensation, as well as project implementation and project synergies strategies

### *Key Outcomes*

- Public and private infrastructure is created, enhanced, maintained or protected through an integrated environmental approach that respects project costs
- Local, regional and provincial ecosystem quality and function is protected, mitigated or enhanced
- Natural hazard risks are avoided, eliminated, or mitigated
- Service delivery standards are consistently met or exceeded
- Public infrastructure delivery timelines are acknowledged and respected in the review process

### *Key Activities – 2018-2021*

- Work with municipal, provincial, federal and private development stakeholders in the implementation of TRCA's Environmental Assessment Plan Review and Permitting function
- Provide environmental planning, technical expertise and information in the areas of ecology, water resources engineering, geotechnical engineering, hydrogeology, archaeology, property services, climate change, research and development, conservation lands, restoration and compensation services, and watershed management in accordance with corporate programs, policies and guideline responsibilities
- Continue engagement with infrastructure providers exempt from TRCA regulation, and offer the VPR service in an effort to ensure risks to infrastructure and communities from natural hazards are reduced and ecosystem services at the local and regional scales are maintained or enhanced
- Increase procedural transparency and accountability
- Offer enhanced service delivery to clients on an as needed basis pursuant to the fee for service model, or the service level agreement model

### **Outlook**

TRCA's Environmental Assessment Planning and Permitting function is expected to continue in a manner similar to current operations. Program and process efficiencies will continue to be pursued to improve current levels of service. TRCA will also seek to build and expand relationships with public and private infrastructure providers to ensure that environmental assessment services are meeting regulatory, ecological, and client needs and that approaches to project management and review are both timely and cost effective.

## ***Education and Outreach***

Education and Outreach programs support municipal and provincial objectives for environmental education in schools, build professional capacity and competitiveness in the region's sustainable economic sectors, and engage the broader population to become active in developing healthy, sustainable communities. Formal and non-formal education and training is delivered to develop a culture of life-long learning for residents of all ages at TRCA education centres, academic institutions and in the community



***School Programs***



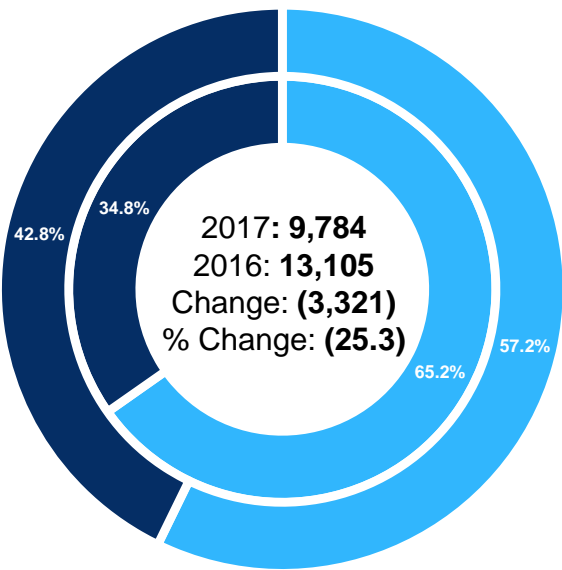
***Family and Community Programs***



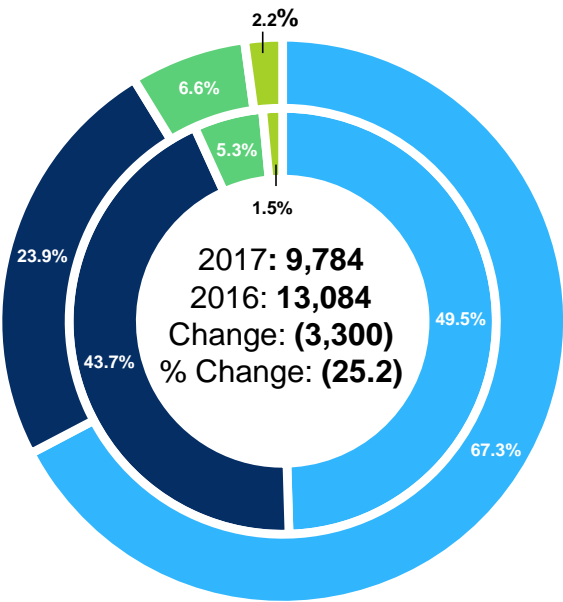
***Newcomer Employment and Education***

# Education and Outreach

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA's 2017 budgeted figures and the inner ring represents TRCA's 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other

Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other

## School Programs

### Objectives:

- Improve knowledge, understanding and awareness related to environment, conservation, and sustainability issues and translate knowledge into actions that improve the sustainability of the Toronto region.
- Promote positive behavioral change to foster individual and social health and well-being
- Enhance social equity and equalize access of youth to environmental education and leadership development experiences
- Contribute to integrated TRCA Community Outcome objectives

### Program Features

#### *Positioning*

TRCA designs and delivers environmental education programs that complement provincial curriculum outcomes and objectives. This approach leverages TRCA's long-standing relationships with district school boards in the co-creation of programs tailored for both classroom and TRCA field trip locations.

With secure philanthropic funding, TRCA provides subsidized curricular enhancement to Toronto region schools. These conditions enable TRCA to reach diverse student populations and efficiently target students and classrooms in priority neighborhoods.

#### *Context*

TRCA has historically provided extended environmental education experiences through overnight multi day programming at its three field centres, in-class visits, and field trips and festivals at conservation parks. Single-day field trips are hosted by TRCA at its Kortright Centre for Conservation, Black Creek Pioneer Village, Tommy Thompson Park, as well as at the Swan Lake Centre for Conservation and Innovation and field centres.

The population of enrolled K-12 students in the Toronto region is predicted to be stable and/or growing in coming years. These demographics suggest TRCA programs will have a market of predictable size and may need to increase in scale to maintain equivalent levels of service delivery. School Programs require a high human capital complement and productivity gains are not expected; School Programs delivery costs are expected to increase accordingly.

#### *Stressors and Opportunities*

Research clearly demonstrates strong links between experiences in nature and key academic, health, social and environmental outcomes. Each year, however, proportionally fewer Toronto region youth have ready access to, and/or spend time in, the natural environment either independently or through TRCA programming. Growing economic polarization exacerbates nature deficit in the classroom context; the top barriers identified by teachers to booking field trips to TRCA centres are program and transportation costs. Despite field trip booking costs being comparatively low (~\$2.50/student per programming hour for field trips; ~\$5.25/student per programming hour at field centres), classes where students are unable to afford field trips are increasingly likely to be denied exposure to the natural environment (TRCA in-class visits are free). Such an outcome would reduce the anticipated health, academic and social outcomes for these youth while diminishing social and environmental outcomes at local and regional scales. Current philanthropic sector interest in youth and the environment mitigate the effects of economic disparity on equitable program delivery, and charitable grants significantly enhance the delivery of programs to at-risk youth and/or classrooms in priority neighborhoods. While TRCA will continue to engage with the charitable sector, the risk of reinforcing social inequality through lack of access to programming would be significant should external funding be reduced or discontinued.

#### *Funding*

School board and/or user fees cover a considerable portion of program expenses for many initiatives. TRCA School Programs are also supported through both general and municipal levy, provincial and federal grants(s), and private or philanthropic funding.

### *Direct Actions and Activities*

School Programs offerings are most frequently delivered through some combination of classroom sessions, field trips to natural environments, or both. Approximately 7,000 students per year participate in overnight field centre programs, over 85,000 embark on a TRCA field trip, and approximately 20,000 are engaged through in-class activities.

Beyond K-12 classrooms, TRCA offers niche programs (Specialist High Skills Major and Innovation, Creativity, and Entrepreneurship workshops) that support Ontario educational requirements. The Conservation Youth Corps directs high school students' required volunteer hours toward local public interest environmental projects, while the Kortright Centre delivers curriculum-based content and general environmental education programs for homeschooled students and preschoolers, respectively.

### *Complementary TRCA Actions and Activities*

School Programs are complemented by the following TRCA activities:

- Family Programs and Community Engagement provide extension activities for youth and their families to access mediated natural experiences. In future, these activities will be further integrated with or oriented toward Community Outcomes objectives

### *Key Outcomes*

- Behavioral changes (measured short-term and predicted long-term) in student participants lead to improved indicators with respect to:
  - Citizenship behaviors, including environmental stewardship and social cohesion
  - Health and wellness outcomes
  - Academic achievement
- School program access is provided in an equitable manner across the jurisdiction without regard to socioeconomic circumstance
- Programming options in support of provincial curriculum objectives are available to diverse student learner categories (early childhood education through post-secondary)
- TRCA Community Objectives are advanced

### *Key Activities – 2018-2021*

- Initiate redesign of current School Programs content and infrastructure to support community activation centre and youth hub implementation
- Continue operation of all current class and student programming initiatives
- Strengthen new and existing relationships with traditional and non-traditional school board partners
- Diversify philanthropic funding base; increase absolute and per student values of philanthropic funds received

### **Outlook**

For increased effectiveness and efficacy, TRCA's ability to provide and promote nature-based experiences for youth will be further extended beyond discrete in-class or field trip experiences. TRCA is currently in the process of re-configuring school programming and infrastructure to serve community scale objectives. Field centres will be transformed into community hubs that offer diverse programming across a wider demographic spectrum. Curricular content will introduce and integrate community themes and linkages, and the development and deployment of a Nature School approach is under active consideration for Kortright. As this programming is brought online, outcomes and indicators for School Programs will extend beyond the individual and be integrated and harmonized into broader sets of objectives.

## Family and Community Programs

### Objectives:

- Provide outdoor experiences that foster individual and social health and well-being
- Promote sustainable behaviors through learning and engagement activities
- Contribute to integrated TRCA Community Outcome objectives

### Program Features

#### *Positioning*

Family and Community Programs utilize TRCA landholdings and infrastructure to offer affordable, educational, family-oriented programming. Family and Community Programs seek to enhance the richness and educational value of the visitor experience by delivering programs in unique natural settings.

TRCA Family and Community Programs are differentiated from TRCA Events and Festival offerings by their regular scheduling and programmed educational content.

#### *Context*

The population of TRCA's jurisdiction is over 4.5 million, of which over 700,000 are children between infant to 14 years of age. Accordingly, the maximum predicted local market size for family programs is approximately 600,000 families. In addition to this local market, TRCA is actively seeking to expand its audience by attracting families from outside its jurisdiction.

Family and Community Programs are hosted at TRCA sites that possess the requisite staffing and/or site facilities. Some onsite infrastructure, for example maple sugar shacks, has been installed at TRCA sites for the specific purpose of facilitating public programming. Family and Community Programs are hosted at conservation parks or similar sites and it is anticipated that participant demographics between these two offerings are similar.

#### *Stressors and Opportunities*

Family and Community Programs delivery is currently constrained by lack of transportation for prospective participants, audience uptake, available space at the hosting venue, qualified program delivery staff, and funding available to support programming.

Family and Community Programs offer a mediated discourse within and about the natural environment. As such, they represent an important tool for engaging audiences unaccustomed to spending time in the natural environment as well as serve as a safe and low intensity introduction to Toronto region's natural spaces. Designing and tailoring Family and Community Programs that meet niche interests and needs may pose an opportunity to increase audience scope and scale.

Research clearly demonstrates strong links between experiences in nature and key academic, health, social and environmental outcomes. Each year, however, proportionally fewer Toronto region families have ready access to, and/or spend time in, the natural environment. Family and Community Programs seek to motivate and enable families to be increasingly comfortable and interested in spending time in the natural environment. As they are frequently offered at sites requiring vehicle access, Family and Community Programs currently disproportionately benefit families with the time and resources to travel to programming sites. Families unable to access these resources are less likely to partake in natural environment programming.

#### *Funding*

Admission fees for Family and Community Programs range from free to \$25 per person. Select Family and Community Programs are funded in part through municipal levy.

#### *Direct Actions and Activities*

Family and Community Programs offer year round informal educational programming at conservation parks and other TRCA lands delivered in a family-friendly manner. Each year TRCA delivers approximately 50 Family and Community Programs from 22 distinct program offerings at 11 different sites including Tommy

Thompson Park, Kortright Centre for Conservation, Bolton Camp, McVean Farm, and Cold Creek. Each program involves approximately one to two TRCA facilitators and 10 to 350 participants.

Many Family and Community Programs, such as maple syrup programming in the spring, learn-to-fish programs in the summer, the fall colours festival, and the family day winter carnival, are seasonal in nature. Others are offered year round and engage a particular audience type (such as parent and tot programs or the Therapy in the Woods program that engages children with physical and/or cognitive impairments). Some are culturally significant (Halloween and Christmas family programs) or focus on a particular area of natural interest such as astronomy or specific flora and fauna.

#### *Complementary TRCA Actions and Activities*

Family and Community Programs are complemented by the following TRCA activities:

- Conservation Parks provide a venue for Family and Community Programs events
- School Programs and Community Engagement initiatives serve as important preliminary or supplementary outreach and engagement mechanisms

#### *Key Outcomes*

- Behavioral changes in participants leading to:
  - Improved citizenship behaviors, including environmental stewardship and social cohesion
  - Improved health and wellness outcomes
  - Increased likelihood to spend time in natural areas
  - Increased interest in participating in other TRCA programming
- Family and Community Programs offerings are available and of interest to diverse participant categories

#### *Key Activities – 2018- 2021*

- Continue to design and deliver Family and Community Programs offerings under the five themes of recreation, culture, festivals, play, and nature/environment
- Introduce Forest School inspired programming, parent and tot programs, and large scale family event offerings at appropriate areas that have been identified to have the greatest need
- Introduce programming for older adults and seniors that support improved health, community connectivity and aging-in-place objectives
- Continue to learn from, and/or develop partnerships with, agencies that have delivered successful accessibility and inclusion programs, hold a proven record of high program uptake and client satisfaction rates, and/or are delivering innovative environmental programming for families
- Develop and deliver nature based adult workshops and courses that increase knowledge and understanding of the natural and cultural history of the area. Some of these offerings are designed to engage environmental professionals, thereby enabling a greater reach to educate the public beyond TRCA's jurisdiction

#### **Outlook**

In coming years, TRCA Family and Community Programs will evolve from spatiotemporally discrete events to rich community-centric programming. In addition to programming offered at TRCA park sites, new and existing TRCA facilities such as Bolton Camp and TRCA field centres will be transformed into community hubs; the community hub format will enable individuals and groups to take a more active role in the design, delivery, and consumption of public programming. Community hub design is also anticipated to drastically increase the awareness, attractiveness, centrality, and accessibility of public programming sites to larger and more diverse audiences.

## Newcomer Employment and Education

### Objective:

- Support the successful settlement of new Canadians in the Toronto region
- Contribute to integrated TRCA Community Outcome objectives

### Program Features

#### *Positioning*

TRCA provides support services for new Canadians to settle socially, culturally, academically and economically into the Toronto region. These services are situated within the social equity aspect of TRCA's sustainability work and focus on improving settlement outcomes within the New Canadian community; they are delivered as part of, and in partnership with, the broader social services sector.

To support employment and economic outcomes, TRCA utilizes in-house staff expertise to provide employment and training for new Canadians through bridge training activities that address current and future labour market shortages. TRCA also provides services to the employment sector that supports the successful integration and retention of new Canadians within the work force. Beyond the employment context, TRCA develops and delivers programming to expose newcomers to local environmental issues and topics.

#### *Context*

Canada receives 300,000 new Canadians each year, of which approximately 30% settle in the Greater Toronto Area. Continued immigration to the Toronto region provides ongoing needs and opportunities for training and experience programs for foreign trained professionals. Over the next 25 years, immigration is expected to account for all increases in Ontario's working age population and will be a major source of future labour force growth.

#### *Stressors and Opportunities*

Provided the Toronto region continues to attract new Canadians, job development programs for skilled newcomers will continue to receive sustained or increased participant demand. As discussed in *Outlook* (below), TRCA programming funded through the Ontario Ministry of Citizenship and Immigration is subject to funding vulnerabilities in its current operating model. Job development programs therefore face both potential funding stressors as well as opportunities for redesign and increased integration with TRCA programming.

The steady influx of newcomers to the Greater Toronto Area will increase demand for English as Second Language (ESL) learning classes offered by TRCA's Multicultural Connections Program. This will result in the opportunity to serve a greater number of participants provided program funding levels increase in concert with demand.

#### *Funding*

The Ministry of Citizenship and Immigration funds the Professional Access Into Employment (PAIE) program through which TRCA works with internationally trained environmental professionals to help them secure employment in their field. This multi-month training and development program for new Canadians is provided at cost and includes an average participant contribution of \$399.

ESL presentations and the Environmental Experience Subsidy component of the Multicultural Connections Program are funded through Peel, York and Toronto municipal levy.

#### *Direct Actions and Activities*

The PAIE program is a 12 month professional training and development program for internationally trained professionals. This program is completed by participants on a part-time basis and includes approximately 230 direct programming hours including Canadian professional and workplace skill updates, mentorship, an internship, and permanent job placement services. Professional categories for which TRCA currently offers the PAIE program include engineering, geoscience, planning, and environmental science; these represent areas in which TRCA holds considerable expertise, internal staff resources, and professional contacts.



The Multicultural Connections Program facilitates newcomer access to natural areas, parks, and recreational facilities that are often inaccessible by public transit. TRCA attends ESL and Language Instruction for Newcomers to Canada (LINC) programs and provides in-class, hands-on learning experiences about local environmental issues, environmental action and conservation. Topics include, but are not limited to, biodiversity, water conservation, solid waste management, and energy conservation.

#### *Complementary TRCA Actions and Activities*

Newcomer Employment and Education is complemented by the following TRCA activities:

- Corporate Services provides financial secretariat and audit functions for provincial reporting requirements related to the core funding for PAIE, along with general support for research, marketing and human resource services.

#### *Key Outcomes*

- Achievement of community objectives including social and environmental awareness, employment and well-being

#### *Key Activities – 2018-2021*

- Deliver professional training and development programming in response to market deficiencies and demands
- Build capacity within the employment sector to better integrate and retain New Canadians
- Redesign the foreign-trained worker training and development program to reduce cost per participant, increase community objectives, and increase integration with evolving TRCA community outreach and job development programs

#### **Outlook**

TRCA's job development and training programs will continue to evolve to become more tightly integrated with complementary TRCA programming and effectively target community needs at scale. The scope and specificity of populations served, to include newcomer youth, will also increase as TRCA's broader multicultural programming offerings are integrated within professional outreach activities. TRCA will also address market preparedness issues with prospective employers to reduce the intensity of effort required for successful job placement while creating incentives for employers to defray program costs.

## ***Sustainable Communities***

This service area supports municipal efforts to create sustainable communities. Projects and programs are developed to address gaps and to coordinate efforts across the region to increase efficiency, effectiveness and impact of programs. The scope of the service area is broad, encompassing programs that address neighbourhood and sector specific eco- efficiencies (water, energy, waste and GHG emissions), awareness of and need for adaptation to climate change, catalyzing the green economy with sustainable technologies, addressing food security through near urban agriculture, and engaging residents in awareness and sustainability action to foster a caring and involved citizenry.



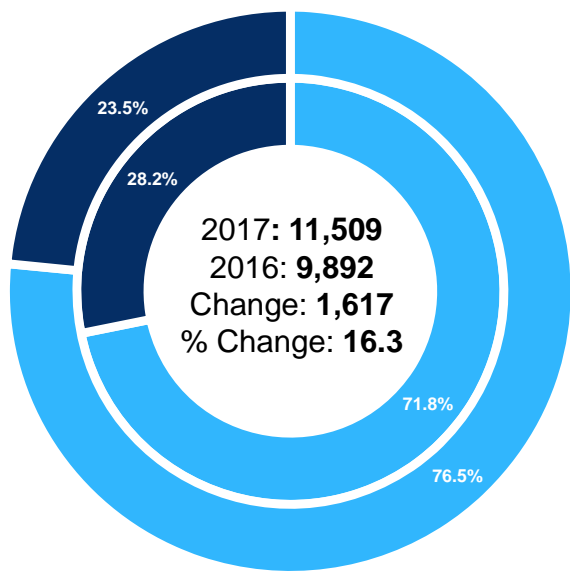
***Living City Transition Program***



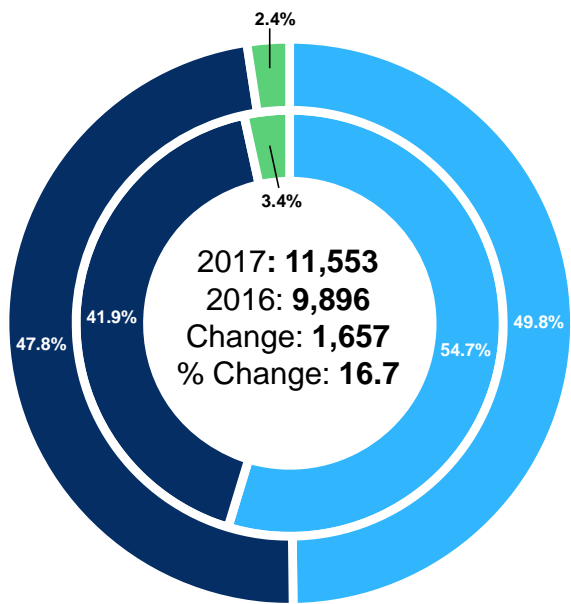
***Community Engagement***

# Sustainable Communities

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA’s 2017 budgeted figures and the inner ring represents TRCA’s 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other

Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other

## Living City Transition Program

### Objectives:

- Increase sustainability and resilience in the residential, institutional, commercial, and industrial (ICI), and agricultural sectors
- Accelerate the uptake and implementation of sustainable and resilience-enhancing practices by Toronto region citizens
- Accelerate the implementation of climate change mitigation and adaptation practices to support the transformation towards low carbon, climate resilient communities
- Increase the economic well-being of Toronto region communities, residents, and businesses by increasing the viability of local green economy business and industry
- Contribute to the growth of regional green economy and sustainability by scaling up sustainability programs and providing green jobs

### Program Features

#### *Positioning*

TRCA's status as both a public and non-profit entity enables it to deliver sustainability and resilience development programs that require significant public assets, diverse partnerships, and innovative non-profit funding models. TRCA leverages this unique combination of capacities, in conjunction with 50+ years of city-building and sustainable technology expertise, to create network-based sustainability initiatives in contexts prone to one or more market failures.

#### *Context*

In past, TRCA watershed plans and other environmental strategy documents have incorporated assumptions with respect to anticipated development, the rate and ratio of implementation and/or retrofit to environmentally sustainable best practices, and attendant environmental conditions and outcomes. The Living City Transition Program addresses the limited uptake of sustainable practices caused by higher implementation costs, the absence of performance validation and/or regulatory/policy incentives, lack of best practices knowledge, and the lack of relevant community structures and expectations in support of sustainable practice implementation.

Home to half of Ontario's population, and an even greater portion of Ontario's greenhouse gas (GHG) emissions, GTA municipalities are essential partners in achieving Ontario's GHG reduction targets. In addition to their direct control over emissions resulting from municipal operations, GTA municipalities have jurisdiction and authority over land use planning and permitting processes and urban design through zoning and ordinances. These powers give municipalities' indirect influence over emissions from buildings and transportation; buildings and transportation are two of Ontario's largest sources of GHG emissions and are arguably the most critical areas for action to achieve Ontario's 2050 target of reducing GHG emissions to levels 80 percent below 1990 levels. GTA municipalities are also well-positioned to lead outreach and education efforts on climate change mitigation with citizens and the private sector.

#### *Stressors and Opportunities*

The population within TRCA's jurisdiction is estimated to increase to approximately 5 million by 2019. The attendant need for growth in both local/regional housing and employment will increase demands on systems at the local, regional, and global scale; taxed systems include ecological, social, hydrological, energy, and waste management. By the same account, retrofit and greenfield developments are key opportunities to realize resilient, low-carbon communities and enhance the sustainability of watersheds in a context of rapid urbanization and climate change. The degree to which the Toronto region can accommodate this growth while maintaining favorable living conditions will in part determine its status as a desirable location for economically advantageous, highly skilled labour industries.

GTA-area municipalities have significant opportunities to stimulate GHG emission reductions in transportation and the built environment through the integration of land use planning and energy policies. Better understanding of appropriate policy approaches to stimulate public and private sector investment in low carbon energy solutions, as well as approaches to community engagement and empowerment, can help scale-up the implementation of new technology and behaviours on the time-scale necessary to contribute to the global effort to avert catastrophic levels of warming.

Recent provincial and national climate change and land use policy changes will create economic opportunities for companies operating within green economy sectors. By reducing local barriers to green technology commercialization and uptake, TRCA seeks to support regional competitiveness in these globally expanding industries.

#### *Funding*

Funding for the Living City Transition Program is obtained through municipal levy, government grants, academic grants, contracted services, and fees.

#### *Direct Actions and Activities*

TRCA operates an extensive sustainable technology testing and verification facility at The Living City Campus at Kortright (LCC). This facility is used to test and verify the performance of sustainable building, energy, and low impact development (LID) technologies under local geologic, hydrologic, and climate conditions. Data from the LCC (and similar initiatives managed offsite) are provided to industry and government in support of policy changes to incentivize sustainable technology implementation.

Within the ICI sectors, TRCA's Partners in Project Green and Community Transformation programs leverage employment clusters and convene several networks (based on proximity, industry, or a combination thereof) to promote sustainability focused corporate social responsibility initiative uptake and reduced carbon emissions. These networks seek to accelerate the identification, sharing, and adoption of sustainable best practices and on the ground demonstrations within their membership. TRCA staff also work with individual members/clients on a fee-for-service basis to identify, evaluate, and implement medium- to large-scale sustainability initiatives and monitor their respective successes.

Within the research community, TRCA hosts the Secretariat for the Ontario Climate Consortium (OCC). The OCC brings together a network of Ontario universities to generate and/or synthesize evidence-based guidance (science to policy) for public and private sector stakeholders. OCC initiatives include: organizing the annual Ontario Climate Symposium; advancing the understanding and application of vulnerability and risk assessments across sectors for adaptation planning; supporting a national research partnership around municipal low carbon energy planning; assessing emerging federal and provincial policy and program changes to identify funding opportunities that accelerate the implementation of mitigation and adaptation action; and, exploring partnership opportunities to improve access to climate information and translation services.

TRCA engages directly with individual landholders in the commercial agricultural sector. Through subsidized expertise and implementation support, TRCA seeks to accelerate the adoption of agricultural best practices and the reduction of habitat and water quality threats to the surrounding landscape. Within urban areas, TRCA leases land and promotes the development of both for-profit and non-profit community-based urban agricultural initiatives.

At the neighbourhood scale, TRCA engages directly with citizens, private landowners and community organizations to test and verify best practices for sustainable technology adoption and behavioral change. Distinct from traditional community stewardship activities, Sustainable Community programming seeks to understand how community factors – including socio-economic and community characteristic variables - affect the uptake and longevity of sustainable behaviors. Practices or interventions found to strengthen desirable community characteristics and increase and/or accelerate metrics of sustainability are shared and scaled to other community sites. The holistic neighbourhood-based focus sets the stage for innovative solutions and strong community support for renewal initiatives in the private and public realms.

#### *Complementary TRCA Actions and Activities*

The Living City Transition Program area is supported by the following TRCA activities:

- Watershed Planning and Reporting delineates desired targets and end-states
- Community Engagement activities foster local environmental stewardship behaviors and promote behavioural change that fosters individual and social health and well-being
- Education and Outreach activities help support formal and non-formal education and training of industry professionals, youth, and foreign trained professionals

### *Key Outcomes*

- Corporate sustainability initiatives in diverse sectors accelerate the uptake of effective sustainability measures, reduce carbon emissions and water footprints, and increase waste diversion
- Technologies for improving energy and water efficiency, and reducing stormwater impacts, are identified and implemented throughout the region and beyond
- Economic performance and competitiveness of the Toronto region's green technology/services sector is increased
- Toronto region food security, including the urban agriculture sector, is strengthened
- Neighbourhoods develop social capital while reducing their environmental footprint
- Strategies and plans addressing climate change mitigation and adaptation are based on the best available evidence and supporting science

### *Key Activities – 2018-2021*

- Advance new neighbourhood retrofit program directions, sustain existing activities, replicate successful innovations and implement new Sustainable Neighbourhood Retrofit Action Plans
- Continue to expand the Sustainable Technology Evaluation Program, including seeking designation as a non-profit D-entity
- Continue to implement, promote, and expand Community Transformation, urban agriculture, and corporate sustainability projects
- Scale up eco-business zones to encompass attractive and appropriate employment clusters within partner municipalities
- Work with partners to develop and implement building-related emission reduction programs
- Deepen and expand the Ontario Climate Consortium network connections, diversify the annual Symposium program, and continue to support municipal adaptation planning and the development and implementation of community energy and climate mitigation action plans
- Support the work of the Green Infrastructure Ontario Coalition

### **Outlook**

The Living City Transition Program will continue to be a high potential growth area in the coming years. Each initiative within this program area is readily scalable (throughout Toronto region and beyond) provided adequate business models - and sufficient client-based funding sources therein - are identified. This opportunity imbues the Living City Transition Program with high potential for rapid experimentation, iteration, and associated learning. Provided TRCA and current funding partners tolerate the uncertainty associated with innovation processes, the Living City Transition Program has the potential to provide the system-wide sustainability and resiliency-building practices needed to transform the Toronto region into a sustainable, low-carbon urban centre.

## Community Engagement

### Objectives:

- Maintain and expand an informed citizenry capable of providing feedback on local and regional initiatives that hold environmental implications
- Foster local environmental stewardship behaviors and initiatives
- Promote positive behavioral change that fosters individual and social health and well-being

### Program Features

#### *Positioning*

TRCA has been trusted by municipal partners and citizens to deliver environmental stewardship and engagement programming; many community engagement activities involve consultation on, or participation in, TRCA and partner plans, strategies, and project development and/or community based restoration initiatives. To meet community and partner needs, TRCA provides integrated, at-cost community engagement services to municipalities with value-added economies of scale and consistency in regional approach and application.

#### *Context*

TRCA serves an expanding population of over 4.5 million citizens across 18 municipalities. Community Engagement activities are in large part undertaken in support of TRCA's watershed and waterfront plans and strategies as well as individual projects that contribute to these initiatives. Community involvement in conservation programs seeks to foster environmental stewardship, encourage citizen and community groups to gain an understanding of conservation and watershed management issues, and to motivate individuals and communities to undertake independent initiatives that complement TRCA objectives. Community Engagement activities also build capacity and assists neighbourhoods, businesses, governments and non-governmental organizations in the identification and implementation of strategies and actions that support collective advancement toward socially, economically, and environmentally resilient communities.

#### *Stressors and Opportunities*

The increasing size and diversity of the Toronto region population expands the scope and scale of resources required to meaningfully engage a given proportion of citizens. TRCA's relative ability to engage citizens within its jurisdiction will decrease if community engagement resources remain static. Reduced engagement poses a threat not only to program objectives including health, environment, community cohesion, but also undermines the fundamental principle of informed participation in consultation and collaborative planning. Failure to actively engage with the diversity of the Toronto region population continues to disproportionately favour the perspective of existing known contacts and participants (and the demographics represented thereof) at the expense of the wider whole.

Demographic trends indicate that the average age of those regularly participating in outdoor initiatives is increasing. Addressing the intersectionality of age and other characteristics - including ethnicity and socioeconomic status - in community outreach and engagement activities continues to pose a challenge and requires outreach initiatives targeted toward underrepresented groups. TRCA views both targeted and non-targeted outreach activities as an opportunity to ensure that participants engaged through TRCA initiatives reflect the entire Toronto region community.

Advances in communications and internet technology allow for the production and dissemination of increasingly niche outreach strategies; communications products can be delivered to wider audiences at lower per capita cost. The engagement of public audiences through remote technology, however, cannot fully replace engaging audiences at specific sites and fostering the social, health, and stewardship benefits of active civic participation and engagement.

### *Funding*

Funding for Community Engagement activities is funded primarily through municipal levy with minor contributions from charitable foundations and government grants. Participating individuals and organizations are not charged fees as doing so increase barriers to participation.

### *Direct Actions and Activities*

TRCA directly engages citizens through participation in planning and consultation discussions, community-based regeneration activities such as tree plantings, and residence-specific programming addressing indoor and outdoor sustainability opportunities. Each year TRCA hosts over 60 events across the jurisdiction. For certain joint projects, TRCA serves as a community liaison and mediator on behalf of municipal and/or other funding partners.

As noted above, TRCA seeks to ensure engaged populations reflect the diversity of the broader Toronto region. To this end, specific populations are targeted by TRCA for active introduction to TRCA sites, services, and objectives.

### *Complementary TRCA Actions and Activities*

The Community Engagement program area is complemented by the following TRCA activities:

- Watershed Planning and Reporting directs the sites and objectives of community-based restoration and consultation activities
- School Programs and/or Family Programs serve as an introduction to TRCA's objectives and program offerings

### *Key Outcomes*

- Citizens and community groups, reflecting the cultural diversity of the Toronto region, develop an understanding of conservation and watershed management issues and engage in conservation programs and activities that support TRCA strategic priorities
- Citizens are motivated to organize and undertake independent initiatives that complement TRCA and partner objectives, benefit local environmental conditions, and/or advance their own physical and social well-being
- Stakeholders from public, private and non-profit sectors, community groups and the general public are engaged in the process of TRCA watershed plan development
- A large network of volunteers contribute to TRCA projects and programs while gaining experience in the environmental field
- Private and public sector stakeholders, including TRCA partner municipalities and communities, are aware of anticipated climate change effects in the Toronto region and understand how they might mitigate these effects

### *Key Activities – 2018-2021*

- Develop and implement a new citizen governance model to increase the engagement of stakeholders in TRCA watershed management activities
- Build capacity and assist neighbourhoods, businesses, governments and non-government organizations to identify and implement strategies and actions that facilitate and accelerate progress towards socially, environmentally and economically resilient communities
- Modify existing outreach programming, as appropriate, to incorporate climate change mitigation and adaptation information
- Deploy an online engagement platform as a tool for broader and deeper community engagement
- Support TRCA's mandatory and voluntary public consultation activities and facilitate alignment with municipal partners
- Refine performance measures and targets to track success of TRCA engagement activities

### **Outlook**

TRCA will continue to proactively seek involvement with and outreach to a broad cross-section of the Toronto region population. To this end, the Community Engagement program will continue to develop, test, and implement engagement tools and programs that help partner municipalities achieve sustainable communities.



## ***Corporate Services***

Corporate Services include financial, administrative and technical services that enable TRCA staff to develop new capacity to efficiently and effectively deliver service area objectives.

### ***Corporate Management and Governance***

### ***Financial Management***

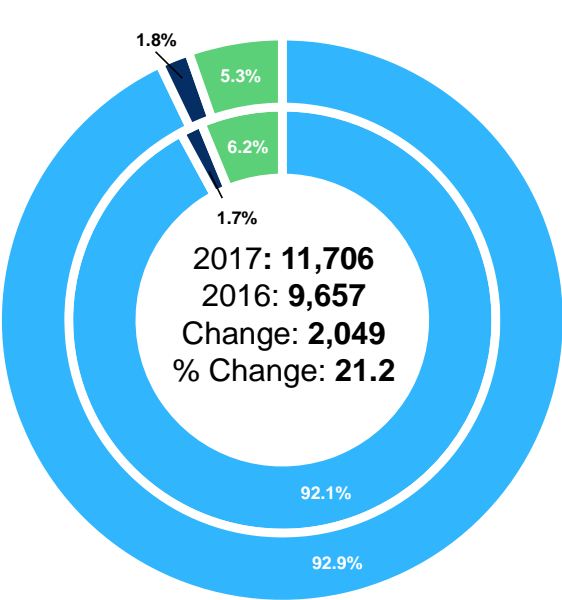
### ***Human Resources***

### ***Corporate Communications***

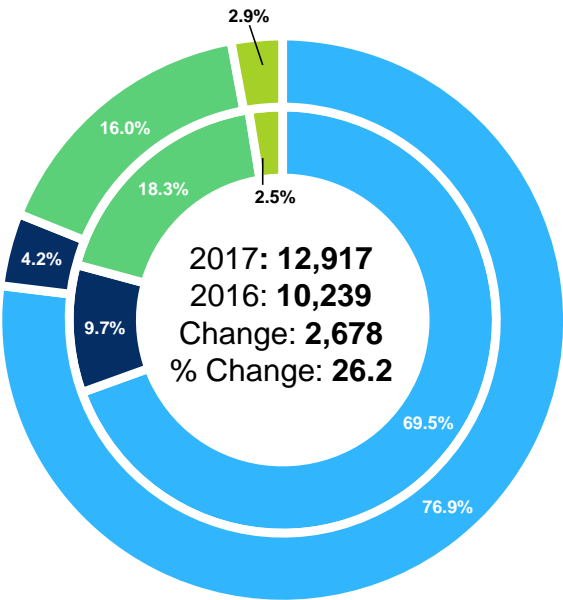
### ***Information Infrastructure and Management***

# Corporate Services

Revenue Sources



Expenses by Object



In the above donut charts, the outer ring represents TRCA’s 2017 budgeted figures and the inner ring represents TRCA’s 2016 budgeted figures.

Revenue Sources

- Government Funding
- TRCA Generated
- Other

Expenses by Object

- Compensation
- Contract Services
- Materials and Supplies
- Other

## Corporate Management and Governance

### Objectives

- Organizational positioning and strategy is clearly articulated and implemented
- Internal and external governance issues are effectively managed
- Organizational exposure to risk, including credibility risk, is minimized
- TRCA operations are consistent with governing legislation

### Program Features

#### *Positioning*

Corporate Management and Governance houses TRCA's executive and corporate governance functions. Activities provided by this program area - in particular by the CEO's Office – function internally and externally to represent TRCA as a corporate entity and implement corporate governance mandates. Management of TRCA's board governance process ensures TRCA's strategic positioning, and actions thereof, is developed in a manner consistent with TRCA's power and authority as granted through the *Conservation Authorities Act* (the Act). Corporate Management and Governance also operates internally to maximize adherence to other applicable legislation and TRCA policy while minimizing corporate risk exposure.

#### *Context*

TRCA is a government-controlled not-for-profit entity created by the *Conservation Authorities Act*. As such, TRCA is governed by the board of municipal appointees from its six member municipalities (Toronto, Peel, York, Durham, Mono and Adjala/Tosoronto). TRCA strategy and governance direction is taken from the Act and other legislation, its municipal partners political and programmatic needs, cues derived from all levels of government, and public and private interests.

A CEO candidate is approved by the Authority on an as-needed basis. In 2013, TRCA transitioned from the position of Chief Administrative Officer to Chief Executive Officer to emphasize the responsibility for determining strategic direction and financial capacity and to align with the organizational environments and business lines within which TRCA operates.

Each conservation authority is required to establish and maintain effective internal and external governance systems. Such requirements include attending to matters of board governance and relations while ensuring effective organizational function through internally and externally coherent policies. The development and selection of senior managers, to whom corporate policy interpretation and implementation, fiscal responsibility, and organizational culture expectations are delegated, is managed by TRCA's CEO's Office to ensure governance objectives are met. Programs to confirm and increase organizational compliance with internal policy are also managed through distinct Corporate Management and Governance programs.

#### *Stressors and Opportunities*

In 2015, the Ontario provincial government announced its review of the *Conservation Authorities Act*. The outcome of this review is anticipated in 2017; it is anticipated that the review will provide a renewed statement of provincial commitment to the conservation authority movement while strengthening TRCA's guiding legislation and therefore the specific authorities, permissions, and constraints under which TRCA operates. Any changes from the review outcome that affect TRCA's mandate, governance, and/or intergovernmental integration will be addressed through Corporate Management and Governance; this response will seek to ensure continuity in TRCA's role as a productive, stable, and influential actor and partner in the development of sustainable urban and rural regions.

Through its mandate and programming, TRCA is positioned at the vanguard of ecologically sustainable city building technologies and approaches. This orientation provides TRCA with an opportunity to serve in an expanded advisory role to its partners with respect to feasible strategies and instruments for green and grey infrastructure financing. It also provides an opportunity for TRCA and its partners to engage in constructive dialogue on the design, development, and implementation of financial instruments that can accomplish mutually beneficial ecological and infrastructure outcomes. Corporate Management and Governance will vigorously pursue opportunities to engage in intergovernmental dialogue and advocate for the inclusion of low impact and green infrastructure alternatives within major infrastructure design and implementation initiatives.

As new sources of financing are developed – in particular carbon cap and trade monies – TRCA will pursue advisory or partnership roles to advance climate change investments in the development of sustainable, resilient city regions.

The Crombie panel review of Ontario's Four Provincial Plans underscored the potential for regional scale coordination to realize sustainability goals and objectives at scale. TRCA will continue to parlay its existing strength in partner engagement and coordination into large, diverse, and effective regional sustainability initiatives. As consensus around approaches and endpoints emerge, TRCA may be faced with the opportunity and challenge of relinquishing elements of goal-setting autonomy as it adopts the shared and collaborative goals of larger partnerships. Corporate Management and Governance will ensure any partner-based region-scale objectives are adopted in a manner acceptable to the Authority and partner municipalities.

Through its intergovernmental affairs function, Corporate Management and Governance will pursue opportunities to stimulate interjurisdictional dialogue regarding regional climate risks, stressors, and adaptive approaches. TRCA holds significant expertise in framing and responding to existing and emerging risks at the interface of human society and the environment. To this end, TRCA will continue to identify issues and prepare responses to emerging risks including demographic shifts, green economy preparedness and transition, and the role of diminishing urban greenspace on ecosystem viability and human psychological function. By providing direction and leadership internally and fostering discussion across all levels of government, Corporate Management and Governance will strive to ensure regional preparedness for the literal and figurative hurricanes that emerge from rapidly evolving environmental, social, and economic trends.

In the next five years, five of seven staff within TRCA's current senior management cohort (CEO, CFO, and three Director-level positions) are eligible to retire; the balance of TRCA's current senior management cohort (two Director-level positions) were recently appointed (2015). This turnover in senior staff represents both a stressor and opportunity with respect to organizational stability and approach. The development of TRCA's Strategy Committee and Staff Collab processes provides expanded opportunities for members of staff to become involved in the full spectrum of corporate strategy and leadership.

#### *Funding*

All activities undertaken in Corporate Management and Governance are funded from general levy.

#### *Direct Actions and Activities*

Corporate Management and Governance includes the function of the CEO's Office, TRCA board relations, and associated organization, documentation, and corporate governance obligations. Activities include oversight of TRCA organizational function including review of TRCA actions to ensure consistency with applicable legislation, best practices, and internal guidelines, policies, and recommendations. Opportunities or issues, where identified, may be handled by Corporate Management and Governance staff or delegated to other TRCA staff.

#### *Complementary TRCA Actions*

Corporate Management and Governance supports the following TRCA activities:

- Corporate Management and Governance works with Human Resources to develop and implement succession planning initiatives
- Corporate Management and Governance works with Financial Management to understand financial capacity and constraints in the realization of strategic and programmatic objectives
- Corporate Management and Governance works with all program areas to ensure TRCA objectives are consistently presented and advanced through policy interventions and implementation
- Corporate Management and Governance works with senior management in all divisions to ensure real-time identification and response to emerging opportunities and risks

### *Key Outcomes*

- Adoption of shared, collective region-scale environmental goals, objectives, and strategies
- TRCA and/or conservation authority representation in key federal, provincial and municipal dialogues addressing built and natural infrastructure risk, redevelopment, and growth
- Development and maintenance of a strong and resilient corporate leadership team

### *Key Activities – 2018-2021*

- Maintain ongoing board relations and intergovernmental affairs
- Determine and articulate internal corporate strategy, priorities, and direction
- Through Conservation Ontario, engage with partner conservation authorities to craft regional sustainability objectives and implementation strategies
- Engage with all levels of government to articulate and establish the role of conservation authorities in dialogues and initiatives including climate change adaptation, green urban centres, and infrastructure planning and implementation
- Develop, train and challenge TRCA's senior leadership team
- Develop a corporate Risk Management Policy
- Provide organizational leadership direction
- TRCA Strategic Plan oversight and review

### **Outlook**

TRCA will experience a period of change and renewal in the coming years. In addition to its transition to a new senior leadership team, TRCA also will relocate to a new building at its previous Head Office site (5 Shoreham Drive). These activities, with complementary internal programming, will ensure TRCA is able to recruit and retain the talent needed to provide partners with solutions to issues of increasing complexity, urgency, and variability.

To ensure that it builds and maintains sufficient capacity to meet existing and emerging challenges, TRCA will aggressively pursue novel funding sources and partnerships. Corporate Management and Governance will play instrumental roles in the identification and management of new relationships while ensuring TRCA maintains sufficient autonomy and accountability to satisfy its obligations as a public institution.

TRCA will continue to actively support and advance regional-scale collaborative initiatives. Shared sustainability objectives, and the collective actions required to achieve them, represent the most promising approach to ensure the Toronto region remains a safe, healthy, and prosperous region amidst the significant challenges and shifts underway. TRCA will actively participate in groups that are pursuing sustainability based, intra-regional prosperity - including the federal government's green urban agenda - and continue to champion the need for healthy Great Lakes as a requisite precondition for regional security and viability.

Through these activities, TRCA expects to significantly increase its efforts and involvement as a leading proponent of regional sustainability approaches and the development of systematic approaches to realize The Living City vision.

## **Financial Management**

### **Objectives:**

- Timely, accurate, and complete transaction processing in support of effective financial decisions and reporting to stakeholders
- Compliance with regulatory reporting requirements, TRCA policies, and Canadian public sector accounting standards
- Safeguarding of assets
- Delivery of multi-year business plans and budget services

### **Program Features**

#### *Positioning*

TRCA's Financial Management program delivers a variety of services that demonstrate financial stewardship and accountability. These services include transaction processing, regulatory compliance, implementation and monitoring of internal controls, safeguarding of assets, risk assessment, multi-faceted financial reporting, and long term financial planning. TRCA strives to maintain the trust of its many stakeholders, including government stakeholders which provide ~74% of TRCA's total funding, in its ability to deliver effective programming.

#### *Context*

TRCA manages an annual budget in excess of \$100 million that is predominantly funded by government, contracted services, and user fees. Programming is delivered throughout TRCA's jurisdiction which includes the City of Toronto, significant area within the regional municipalities of Durham, Peel and York, and parts of the Town of Mono and Township of Adjala-Tosorontio. TRCA also occasionally enters into special agreements to provide services or expertise in concert with adjacent conservation authorities; such services and expertise are managed on a fee-for-service basis and are undertaken to reduce project uncertainty and/or cost to TRCA's partner municipalities.

#### *Stressors and Opportunities*

TRCA is currently undertaking a redesign of its business planning and reporting process with the introduction of the Centralized Planning and Reporting (CPR) business intelligence tool. This initiative includes data consolidation, standardized business planning processes, internal and external metrics development, and associated design and implementation of business intelligence tools and analysis. This process will be fully incorporated into the fiscal year 2019 planning cycle. The newly adopted CPR approach is anticipated to yield significant improvements in data-driven decision making for TRCA and its municipal partners.

TRCA uses a large number of financial systems to manage bookings, processing of transactions, and to meet the unique reporting requirements of each of our programs. The Financial Management team will continue to seek integrated solutions or the automation of integration processes.

Deployment of the Business World Financial ERP platform continues, although at a slower pace than anticipated due to the lack of dedicated staff resources. Investment in the update, consolidation, and maintenance of financial systems will provide a significant opportunity to realize decreased operational risk, increased performance, and significant gains in efficiency. The 2017 budget provides an investment of \$100,000 for this purpose.

#### *Funding*

The Financial Management program area is funded from general levy with contributions from Ministry of Natural Resources and Forestry and investment income.

### *Direct Actions and Activities*

Financial Management leads the business planning activities of TRCA by collecting and consolidating information from internal sources and liaising with partner municipalities to determine funding opportunities and constraints; data are used to produce annual and multi-year financial projections and associated business plans including capital requests to TRCA's partner municipalities. In addition to data collection and consolidation, Financial Management staff provide corporate business planning and/or financial analysis support on an as-needed basis including business case preparation and review, cost-benefit analysis, and performance metrics development and reporting.

Current fiscal year activities include all aspects of comptrollership including revenue and expense tracking, managing accounts payable/accounts receivable, and producing quarterly and annual financial reports. Financial management and accounting services are also provided to The Living City Foundation and the World Green Building Council, for whom TRCA acts as a secretariat. TRCA's payroll function is situated within the Financial Services program area and also serves each of these respective organizations.

Financial Management oversees management of the accumulated surplus, non-financial assets, accruals and deferred revenues.

### *Complementary TRCA Actions*

Financial Management supports the following TRCA activities:

- Financial Management works with all program areas to ensure that TRCA's operations align with short and long-term TRCA strategic and science-based objectives
- Financial Management works with all program areas to ensure an integrated business planning approach encompassing financial, physical, and human capital opportunities and needs

### *Key Outcomes*

- Single- and multi-year internal business plans and municipal capital requests are developed and supported by data-driven analysis and decision-making tools
- Accurate and timely financial plans and reports are provided to internal and external partners
- Annual audited financial statements are free of qualifications
- TRCA's long-term fiscal viability is maintained through effective financial management

### *Key Activities - 2018-2021*

- Populate and update current fiscal year actuals into the Business World financial accounting and reporting system
- Complete Phase I and Phase II of Centralized Planning and Reporting business intelligence tool build-out

### **Outlook**

Financial Management will continue to remain current with public sector accounting standards and to provide stakeholders with sound financial data and analyses. Ongoing efforts to improve both business planning and in-year financial management and reporting will continue.

## Human Resources

### Objectives:

- The health and safety of TRCA staff are protected
- A robust and equitable human capital pipeline meets organizational hiring needs
- Staff receive accurate, reliable, and fair treatment throughout the hiring, employment, and departure/retirement lifecycle

### Program Features

#### *Positioning*

TRCA ensures that human capital management and staff health and safety services are provided throughout the organization. In recruiting and retaining talent, TRCA competes with municipalities, provincial and federal government departments, and private sector consulting firms to secure qualified staff. Within the organization, Human Resources seek to ensure that workplace culture and conditions make TRCA an attractive option among potential employers.

#### *Context*

Since its inception in 1957, TRCA's staff complement has grown from 15 to 505 full time staff and 400 contract and/or part-time staff. Growth in staff complement reflects the increased human capital required to meet the expanded volume, complexity, and diversity of TRCA's product and service offerings. As a government non-profit entity, TRCA operates its human resource function to public sector accountability standards including transparency in hiring and compensation. No TRCA staff groups are currently unionized.

#### *Stressors and Opportunities*

At present, TRCA does not manage staff recruitment, retention, and/or development through a structured staff recruitment and development process. Given many pending retirements, TRCA may face challenges developing an appropriately qualified and trained applicant pool for management and senior management positions. To this end, TRCA is currently undertaking a job evaluation process and review of internal equity throughout the organization. By better understanding staff skills sets and resolving job classification discrepancies, TRCA will be better situated to build a systematic, objective evaluation of its existing staff capacity and use this information within a structured human capital strategy.

#### *Funding*

All funding for Human Resources is provided from general levy.

#### *Direct Actions and Activities*

Human Resources activities include all facets of human capital management including talent recruitment and training, compensation and benefits, and the development and implementation of staff engagement activities and health and safety initiatives. Staff support, assistance, and conflict resolution are also provided on an as-needed basis. Initiatives are guided and supported by the development and updating of human resource policies and procedures, development and implementation of supportive formal and organizational structures and frameworks, and engagement with staff either through in-person interaction or the design and implementation of interactive tool and forums.

Human Resources activities protect the health and safety of TRCA staff by ensuring compliance with health and safety legislation and regulations including the *Occupational Health and Safety Act* and associated TRCA policies and procedures. Non-mandated health and wellness initiatives are offered on an ongoing basis to proactively support and increase staff health, wellness, and long-term productivity.

#### *Complementary TRCA Actions*

Human Resources support the following TRCA activities:

- Human Resources works with Corporate Management and Governance to ensure succession planning for senior staff will address organizational needs
- Human Resources works with all program areas to provide internal communications across the organization



- Human Resources works with Financial Services staff within a framework of integrated management planning that incorporates human capital planning throughout the business planning and resource allocation cycle

#### *Key Outcomes*

- Staff productivity is maintained through the provision of a safe, fair, respectful, and predictable work environment and employment relationship
- Compensation and advancement are internally and externally fair, equitable, and legislatively compliant
- A robust recruitment and development process advances the career objectives of individual staff while producing an overall staff complement qualified to assume management-level vacancies
- TRCA adheres to and exceeds Ontario Health and Safety legislation, regulations, and internal policies and procedures

#### *Key Activities 2018-2021*

- Implement the approved recommendations from the organizational compensation and pay equity project
- Update and expand Human Resources policies and procedures, including updated and expanded health and safety policies, procedures, and wellness activities
- Develop and build staff development infrastructure, processes, and programming
- Integrate Human Resources databases into TRCA's Centralized Planning and Reporting business intelligence framework

#### **Outlook**

In 2016-2017, TRCA undertook a review of the compensation program to ensure fair, competitive compensation that is internally equitable, externally competitive, and legislatively compliant. The resulting expanded understanding of TRCA existing roles, responsibilities, and skill sets will strongly inform TRCA's ongoing development of a comprehensive, systematic approach to human capital management and compensation. TRCA's ability to respond to the data provided by this exercise – in particular the ability to design and implement a constructive response to pending management retirements – will depend on additional resources to expand the scope of Human Resources to encompass proactive and strategic approaches to human capital management.

## Corporate Communications

### Objectives:

- Build support for TRCA's mission, strategic priorities, and activities
- Facilitate positive interactions and transactions with TRCA clients, customers, and collaborators
- Generate conversation and engagement opportunities to broaden participation in TRCA initiatives

### Program Features

#### *Positioning*

Corporate Communications provides communications advice, design, and implementation support to all TRCA divisions and programs and The Living City Foundation. Fulfilling the role of both subject matter experts and operational support, Corporate Communications ensures that information flows in a timely, efficacious, and cost-effective manner between the organization and its many constituencies. In mediating communications flow, Corporate Communications directly maintains relationships with, and distributes content through, major media outlets, independent content curators and distributors such as blogs and local media outlets, and TRCA controlled websites and social media channels. This program area also works on behalf of TRCA to mitigate reputational risk while identifying opportunities to increase organizational reach and outcomes.

#### *Context*

TRCA's jurisdiction encompasses Canada's largest urban centre and many rural areas, 18 lower, upper and single tier municipal governments, and 4.5 million residents. The size and diversity of TRCA audiences will continue to increase into the foreseeable future.

Communications channel and platform range and diversity have drastically increased over the past 30 years. The advent of the internet, mobile communications devices, social media platforms, and other interactive platforms has splintered audiences across multiple channels. As the number of communications channels has increased, so too have audience expectations of customized content and an ability to engage with the content provided.

Over the past 60 years TRCA program offerings have increased and diversified. All TRCA programs hold minimum communications requirements to ensure appropriate community engagement, however programs launched more recently are likely to incorporate sophisticated communications strategies involving multiple channels. TRCA programs launched prior to the internet, and for which communications are important, are also increasing in complexity; these programs require updated communications strategies that engage new audiences while avoiding the alienation of prior or current participants.

#### *Stressors and Opportunities*

The diversity and ubiquity of communications devices and platforms creates an opportunity for TRCA to expand the scope and scale of its communications to desired audiences. Digital technologies generally reduce distribution costs while concurrently increasing audience expectations of content quality, sophistication, and specificity. Accordingly, TRCA holds the opportunity to reach more audiences more efficaciously but faces the accompanying challenge of winning audience attention, developing high quality content, and staying abreast of best practices on an increasing diverse array of platforms. The interactive nature of many communications channels – including the democratisation of communication and the ability of participants to organize and exert influence online – also creates the need for ongoing monitoring and engagement. To meet this challenge, TRCA now supplements its communications management and content services with technology support that constrain costs and improve effectiveness.

Digital communications technologies provide TRCA with the opportunity to streamline client interfaces and transactions. TRCA continues to pursue opportunities to reduce search effort and transaction costs for both itself and its clients by integrating data collection and e-commerce applications into its communications products. By applying a client-centred design approach in its products, TRCA seeks to improve service delivery while building positive associations and introductions to TRCA and its programming.

Data collected from TRCA communications products, assessments, and external sources provide opportunities to better understand strengths, shortcomings, and future opportunities for outreach initiatives. By using data to assess program effectiveness and opportunity, Corporate Communications can provide increasingly tailored advice on new and modified outreach communications strategies. To accelerate this capability, TRCA is continuing to implement a customer relationship management (CRM) system to increase the integration, efficiency, and effectiveness of data collection and analysis processes.

#### *Funding*

Funding for Corporate Communications is obtained primarily through general levy. Some capital projects include municipal levy funding for communications support.

#### *Direct Actions and Activities*

Corporate Communications engages with TRCA staff to assess communications needs and opportunities from individual project to corporate scales. Programs are developed around key audiences, messages, and media design; communication strategy implementation and success are evaluated and used in an iterative fashion to inform next steps.

Stakeholder relations are managed through print and digital media design, production and distribution, brand management, media relations, advertising and promotions, market research, and the implementation of digital tools to facilitate e-commerce and client relationships.

Corporate Communications provides ongoing monitoring of significant communications channels to determine stakeholder knowledge, perception, and opinion; responses to stakeholder feedback are developed as required to support TRCA objectives.

#### *Complementary TRCA Actions and Activities*

Corporate Communications support the following TRCA activities:

- Corporate Communications provide and manage digital and print communications channels for programs and projects across TRCA
- Corporate Communications support Community Engagement programs in building community understanding, support, and dialogue

#### *Key Outcomes*

- Key stakeholders support TRCA, its mission, and its ongoing work and advocate for TRCA through their own networks
- TRCA develops and maintains relationship with clients, customers and collaborators in support of its key strategic objectives
- Communication reach is expanded and managed in a cost-effective manner

#### *Key Activities - 2018-2021*

- Apply mobile technologies to respond to the increasing opportunities and demand for mobile-friendly communications and engagement
- Build data analytics tools and capacity to better inform communications strategies and tactics
- Strengthen collaborative relationships with key content creators and communication strategists to leverage their communications resources
- Implement tools and policies that facilitate the dissemination of TRCA communications content through social networks

#### **Outlook**

Communications technologies are expected to continue evolving at a rapid pace and to impact all aspects of TRCA Corporate Communications including the communications habits and preferences of TRCA's stakeholders. Demand for services such as real-time knowledge transfer, customized media content, and immersive media are expected to increase alongside other trends driven by technologies not yet invented. TRCA will monitor these developments and adopt corresponding new approaches to ensure effective and efficient corporate communications.

## Information Infrastructure and Management

### Objectives:

- Ensure staff, partners and collaborators have access to data and open data, as appropriate, in a timely manner
- Provide cost effective technologies to enhance, improve, and streamline TRCA business processes
- Ensure information resources and technologies meet all applicable records management, privacy, integrity, and reliability standards and best practice

### Program Features

#### *Positioning*

Information Infrastructure and Management (IIM) evaluates, integrates and supports digital technologies for internal and external clients. Increased integration and use of information infrastructure and data has re-oriented this program from a business support function to a core organizational capacity. While internal needs and capabilities are a key focus of IIM, the services and technologies provided by this group support the needs of diverse users including citizens, partners, and funders.

#### *Context*

Like many contemporary organizations, TRCA is continuing its transition from paper-based, ad-hoc workflows to automated, transaction-based, and integrated processes enabled by enterprise software. In pursuing this objective, TRCA now runs approximately 16 enterprise-scale platforms; enterprise solutions are supplemented by licences to another ten application suites held at the user or group level.

The expense associated with per unit computer processing power and data storage continues to decrease. As a result, software applications continue to grow in sophistication and ubiquity with an accompanying increase in demand for data storage. TRCA currently houses 24 TB of data housed in 8 data server locations. This infrastructure and TRCA's associated technical support services enable and maintain productivity across more than 20 primary TRCA work locations.

Physical and digital records function as corporate memory and are required for ongoing organizational accountability and transparency. Records also house evidence of business activities and transactions and underpin corporate governance and operational efficiency.

#### *Stressors and Opportunities*

The increased scope and scale of the IIM function requires corresponding increases in ongoing hardware and software administration for individual staff (e.g. PCs, cell phones), the organization (e.g. servers, office phone system), and integration with external users and providers (e.g. purchasing, network connectivity). These pressures introduce an increased risk of technology-based service disruptions and lapses in productivity resulting from inadequate and outdated technology tools. Such outcomes would introduce unnecessary lags into TRCA's innovation and service-delivery potential and capacity.

The transfer of activities and functions onto enterprise software platforms yields many opportunities for increased coordination, collaboration, and productivity. The associated transfer of data and need for training, however, represent significant cost and create high switching costs when migrating to a different platform. If TRCA is not be able to finance the update of, and/or transition from, existing enterprise-scale systems on an as-needed basis there exists a significant risk of enterprise software and workflows becoming progressively outdated and less integrated; in such scenarios significant losses in productivity and increased data vulnerability would be anticipated.

Corporate records management administers the systematic administration of records and documented information throughout its life cycle including creation/receipt, classification, use, filing, retention, storage, and final disposition. Should records management be compromised, TRCA would be exposed to potential fines under the *Municipal Freedom of Information and Protection of Privacy Act* (MFIPPA); public scrutiny would also be considerable should TRCA be perceived to be hiding, withholding or destroying records in manners other than those prescribed under TRCA policies, procedures, or legislation. As requests for information and the

amount and types of data become more complex, a greater emphasis on the records management discipline is required. This will create increased human capital requirements and/or increased workload on existing staff.

#### *Funding*

Funding for Information Infrastructure and Management is funded primarily through general levy.

#### *Direct Activities and Actions*

IIM manages the platforms supporting Geographic Information Systems (GIS), financial data systems, environmental data systems, internal communications and business processes, customer relationship management, and corporate records management.

Spatial data and analytic tools inform and support many TRCA programs. Activities include developing data collection protocols and field collection tools for field staff, acquiring data from external partners, municipalities and private vendors, performing spatial analysis and reports, and producing cartography and map products.

Custom relational databases are created and supported to house, manage, and report on TRCA's environmental data. Activities include performing business requirements analysis, building data models, developing GUI (graphical user interfaces), and programming applications.

The procurement of all TRCA hardware and software is managed through Information Infrastructure and Management. Services and logistical supports include upkeep of all IT infrastructure including servers, switches, PCs/laptops, peripheral equipment, the purchase and management of stationary and mobile communications devices, and IT disaster recovery planning including ensuring sufficiently back-ups, redundant hardware, and fail-over services.

All TRCA employees are responsible and accountable for making and keeping adequate, accurate, authentic and reliable records of their work-related activities. TRCA has approximately 87,300 active central files; records are added to the central filing system on an ongoing basis as they are identified through the records management program.

#### *Complementary TRCA Actions and Activities*

- Information Infrastructure and Management provides integrated service delivery to all TRCA programs and staff
- Information Infrastructure and Management contributes to the administration of corporate communications applications and systems including web applications and enterprise CRM

#### *Key Outcomes*

- Up-time of all TRCA networks and systems is maximized
- Access to critical business applications and systems is secure and reliable
- Data connectivity enables all TRCA sites, including remote offices, park, and educational facilities access to centralized business applications
- Data management processes and policies increase data accessibility to staff, clients and partners
- Relational database products manage TRCA data efficiently and effectively
- Records are managed in a manner that meets business needs, legislative requirements, and stakeholder expectations

### *Key Activities – 2018-2021*

- Install communications conduit and fibre optic cables to all office, park and educational facilities
- Extend the TRCA VOIP communications system to all facilities
- Improve the PC/Laptop replacement schedule from seven years to three years
- Increase redundancies into TRCA data centre to maintain 99.99% network up-time
- Complete metadata for all TRCA data holdings to better manage and share TRCA data holdings
- Update TRCA's Disaster Recovery Policy and Retention Schedule
- Improve Records Series Classification and file structure in the electronic document and records management databases
- Increase use of records management principles in daily work processes and file management

### **Outlook**

The value of Information Infrastructure and Management as a key enabler for all other TRCA Service Areas will continue to grow as technology, business processes, and client expectations evolve in concert. To ensure data and workflow coordination and consolidation, Information Infrastructure and Management will become increasingly integrated into program and project planning throughout the organization. Improvements in information technology performance and capability can also be expected to introduce operational improvements in support of TRCA's service to its partners and the community.