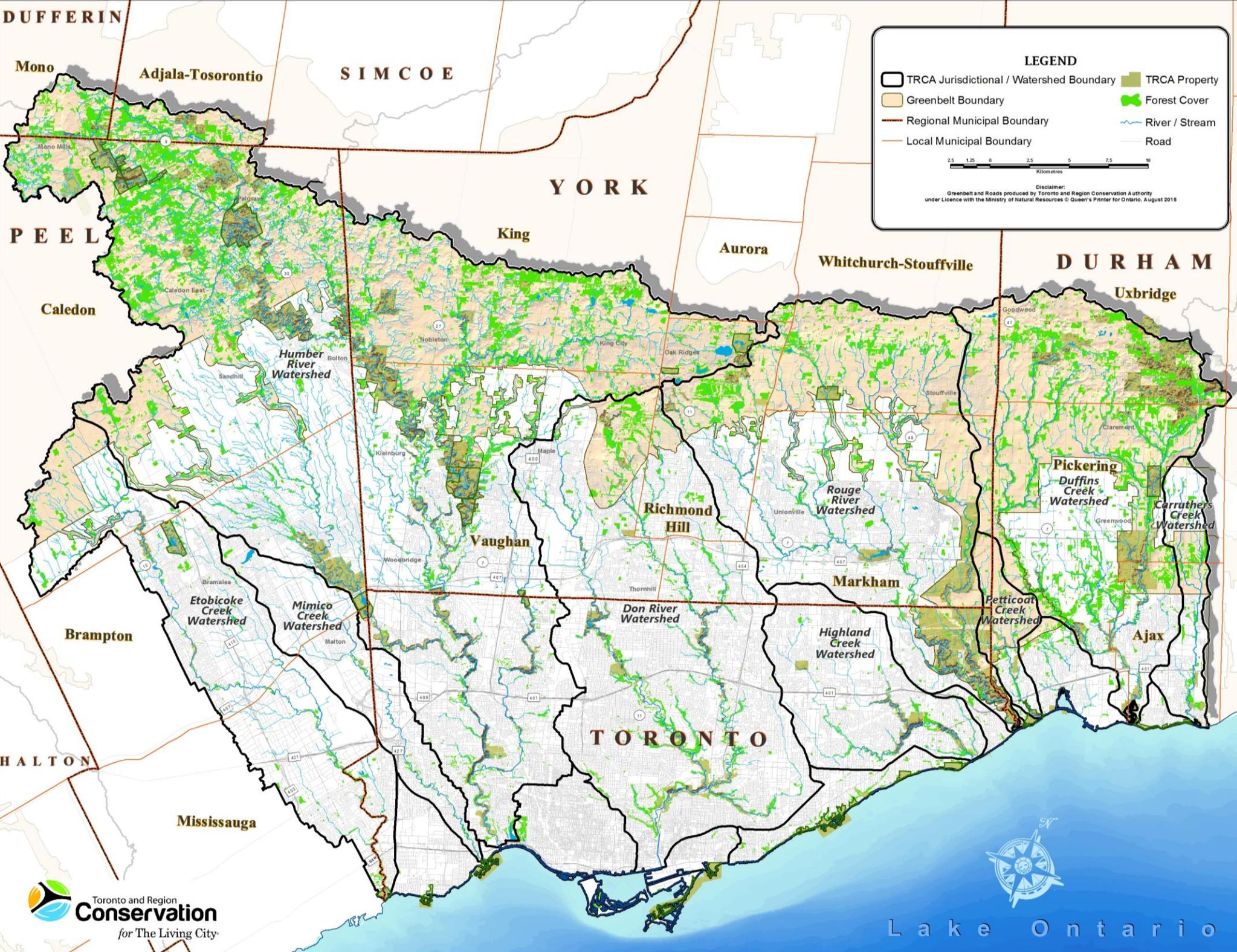


Toronto and Region Conservation Authority

**Business Synopsis and Rationale
2016-2020**



LEGEND

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



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Business Synopsis and Rationale 2016-2020

Executive Summary

Toronto and Region Conservation Authority (TRCA) *Business Synopsis and Rationale 2016-2020* 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 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 2016-2020* 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 value-added and streamlined 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 continue 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 additional sections that demonstrate 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 a *Living City* that protects and restores the integrity of the region's natural resources, provides opportunities for the enjoyment of nature and outdoor recreations, and enables sustainable city building that creates value for residents, businesses and nature. We look forward to working with our partners to realize this bright future.

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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Watershed Studies and Strategies

Watershed Planning and Reporting

2,563	588	-	157	1,421	397	-	-
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Climate Science

590	-	-	19	472	99	-	-
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3,153	588	-	176	1,893	496	-	-
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2016 Full-time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	4.53	6.4	10.93	
2016	3.7	6.98	10.68	-2.3%

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
- 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 to protect water and natural resources, life, and property from flooding and erosion and provide community benefits.

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 watershed and environmental conditions. This information is also useful to TRCA, municipal partners, and stakeholders in understanding the outcomes of environmental and sustainability plans and strategies and evolving 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 km² 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 supporting 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*, updates to the Provincial Policy Statement and the 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 TRCA and partners watershed management plan implementation, actions and encourage stakeholders and communities to take action where improvements were 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 the expansion and intensification of urban areas, 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 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 are significant public communications opportunities. Such events 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 that capture public attention amidst multiple competing alternatives.

Funding

Funding for Watershed Planning and Reporting is obtained through general and 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, understand attitudes or perspectives and willingness to support TRCA objectives, and record environmental behaviors and participation in activities that enhance watershed health.

Report cards and associated data and analyses are used to 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 problems in a timely manner.

Complementary TRCA Actions and Activities

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

- Biodiversity Monitoring and Water Resource Science provide data, analysis and modelling to enable the defensible, science-based planning and recommendations in watershed, subwatershed and waterfront plans. These also provide data and analysis to inform Report Cards
- Policy Development and Review liaises with municipal, provincial, and federal partners to ensure watershed plan consistency and integration with their policies, plans, and strategies, as well as incorporation through development planning and approvals processes
- Community Engagement ensures watershed planning processes includes elements of participative consultation and support for implementation
- Watershed Planning and Reporting recommendations are implemented through the Living City Policies and guidelines
- Restoration and Regeneration, Community Engagement and Living City Transition programs area assist with the implementation 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
- Population is 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 improve

Key Activities – 2017-2020

- 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
- 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 that are related to watershed management but that are best addressed at a different scale, such as terrestrial habitat and wildlife connectivity.

Climate Science

Objectives:

- Enable integrated science-based planning and decision making
- Pursue research opportunities with municipal, academic, and private sector partners to address climate science data deficiencies
- Identify and/or develop best-practices and policies for climate change adaptation
- Prevent, eliminate, or reduce the risk of climate change to human life, local ecosystems, infrastructure, and private and public property

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. 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 allow it to engage and respond in a timely manner and offer tailored recommendations.

Context

In Ontario, as elsewhere, climate impacts are likely be more severe in the coming decades than previously anticipated. 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, 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 worst-case modelling scenario. (Source: *Climate Trends and Future Projections in the Region of Peel*, 2016).

Toronto region natural systems contain diverse climate vulnerabilities. With respect to natural heritage, the greatest 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 through 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 amphibians, and white spruce.

Low-lying areas, particularly those in urbanized areas surrounded by paved surfaces that convey high volume run off, will become increasingly flood vulnerable under current climate change scenarios.

Human populations are vulnerable to climate health impacts. Those particularly at risk include 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 will no longer be a reliable indicator of future conditions. Accordingly, historical design standards may be insufficient to accommodate more extreme events in the future. More 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 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 enables TRCA and partner municipalities to preemptively 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 grants.

Direct Actions and Activities

TRCA in-house climate staff provides 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
- The Ontario Climate Consortium (the Secretariat for whom is situated at 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

- Climate change strategies and adaptation plans and recommendations are based on defensible data and supporting science
- Defensible expert climate advice and best practices are provided to internal and municipal partners
- Reduced risk to human safety, private and public property, essential structures and infrastructure and ecosystem function and services

Key Activities – 2017-2020

- Support TRCA partner municipalities in the development and implementation of climate change adaptation action plans
- Continue to conduct climate change impact, vulnerability and risk assessments for partner municipalities and other stakeholders
- Ensure that understanding of climate change impacts and risks is integrated into updates to TRCA-led watershed and waterfront plans and other guidance documents as required (e.g., stormwater management criteria, LID guidelines, invasive species strategies, planting programs, etc.).
- Provide guidance on evolving federal and provincial climate policy and funding programs geared toward adaptation.

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. This may include new initiatives to accelerate and/or coordinate climate adaptation planning and implementation across jurisdictional, sectoral and institutional boundaries.

Although the recently released Provincial Climate Change Strategy and pending Cap and Trade Program will have a strong focus on advancing and funding mitigation activities in support of achieving provincial greenhouse gas reduction targets, 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 to practice” equation requires significant examination before related policies and programs can be implemented. TRCA will actively seek to participate in this examination to determine the links our restoration programs may have to available green funding and estimate the 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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Water Risk Management

Water Resource Science	2,742	689	26	226	2,115	-	314	314
Flood Management	3,700	334	-	309	2,677	380	-	-
Erosion Management	13,823	-	-	2,669	11,300		146	146
	<u>20,265</u>	<u>1,023</u>	<u>26</u>	<u>3,204</u>	<u>16,092</u>	<u>380</u>	<u>460</u>	<u>460</u>

2016 Full-time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	4.46	64.91	69.37	
2016	4.71	77.12	81.83	18.0%

Water Resource Science

Objectives:

- Enable science-based planning, monitoring and decision making
- Enable best-practice identification and implementation
- 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 on which it is actively involved.

TRCA has conducted (and continues to conduct) research and method validation for 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 primarily on a 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 maintains its own data collection activities because the scope and scale of data collection need for known and standardized QA/QC and on-call expertise, and applied use of TRCA landholdings render the use of consultants inappropriate and prohibitively expensive. In-house data collection is also more easily adapt to evolving needs.

Approximately 61% of TRCA’s jurisdiction is urbanized or urbanizing. The accompanying increase in surface hardening and stormwater collection in 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 urbanization. Adoption and implementation of LID technologies, however, is currently hampered by policy barriers related to performance validation as well as by high implementation costs associated with early stage commercialization.

TRCA jurisdiction contains approximately 995 stormwater management ponds, the life expectancy of which spans from 8 to 12 years without major maintenance. The cleanout and/or retrofit of a SWMP typically costs approximately \$300/m³ of sediment to be removed (or ~ \$350,000/SWMP) and can face complications including construction and environmental challenges.

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 has a significantly high concentration of pollutants. LID measures can detain and treat flows of highly contaminated stormwater bound 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 jurisdiction are operating at reduced capacity and require maintenance or retrofit in order 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 will provide 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 provision by conducting sample analysis on an in-kind and/or at-cost basis.

Direct Actions and Activities

TRCA maintains the physical and intellectual assets – including 320 monitoring stations – required to assess 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 applications 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 undertakes stormwater management inventories, pond clean-out and retrofits; TRCA has conducted an average of 3 clean-out/retrofits per year and 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
- 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

Key Activities – 2017-2020

- 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 GTA 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. TRCA will also seek to develop innovative stormwater management strategies in concert with partner municipalities and the provincial government to fully address climate change and urbanization impacts.

Flood Management

Objectives:

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

Program Features

Positioning

The *Conservation Authorities Act (1946)* grants Conservation Authorities the 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 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 jurisdiction contains 15 provincially designated Special Policy Areas (SPAs) and 42 Flood Vulnerable Areas (FVAs), and 18 lower, upper and single tier municipal governments.

TRCA owns and manages flood control infrastructure and flood vulnerable lands to manage and mitigate floodplain and/or erosion risk. This inventory includes four major dams, seven minor dams, 15 flood control structures and channels, and 4,124 ha of land subject to flood risk. To assist with real time flood monitoring and warning, TRCA operates a system of 32 rainfall and water level gauges covering more than 80% of TRCA's 249,222 ha jurisdiction.

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. Enabling flood infrastructure to meet both existing and future wet weather events is critical to manage 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 - particularly 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 operates a comprehensive remote rainfall gauging network that spans its jurisdiction and provides real-time data to TRCA's Flood Forecasting and Warning Centre and on call Flood Duty Officers. When wet weather or other hydrological events (i.e. thunderstorms) pose a threat to citizens, infrastructure, or property, TRCA alerts 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 results in damage. In such circumstances TRCA provides at-cost engineering and construction services to municipal partners through Restoration Services; 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 and floodline mapping 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 – 2017-2020

- Complete jurisdictional coverage of real time rainfall/stormwater gauging network
- Continue flood monitoring and warning program
- Flood modelling and mapping
- Operations and maintenance of flood control infrastructure
- Planning and design, of remedial projects to the limit of available funds with a focus on special policy areas (i.e. Lower Don, Downtown Brampton)

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 the 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 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 the 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 result in 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 cost 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 to assist with projects in which it holds experience. Through these opportunities TRCA is enhancing already strong partnerships, and reducing project cost and uncertainty for municipal partners undertaking works 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 projects of this type that undertaken by CAs.

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, which 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 – 2017-2020

- 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 2017 and beyond
- Continue 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 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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Regional Biodiversity

Biodiversity Monitoring	2,510	61	27	776	1,218	273	(155)	10	(145)
Ecosystem Management Research and Directions	998	356	53	31	558	-	-	-	-
Restoration and Regeneration	6,887	707	-	2,249	3,919	-	(12)	-	(12)
Forest Management	1,191	-	-	40	1,058	-	(93)	-	(93)
	<u>11,586</u>	<u>1,124</u>	<u>80</u>	<u>3,096</u>	<u>6,753</u>	<u>273</u>	<u>(260)</u>	<u>10</u>	<u>(250)</u>

2016 Full-time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	15.05	100.07	115.12	
2016	15.95	92.76	108.71	-5.6%

Ecosystem Management Research and Directions

Objectives:

- Identify and address data and policy deficiencies regarding urban ecosystem health
- Identify targets for urban ecosystem components
- 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 where research needs and interests overlap. Use of this research partnership model increases and diversifies external funding and human capital for TRCA-initiated and/or managed research to meet high priority research needs in a cost-effective manner.

TRCA maintains in-house expertise in applied aquatic and terrestrial ecology. In addition to ensuring value creation and capture in partnership arrangements, on-demand internal expertise enables TRCA to independently pursue research in support of TRCA, municipal, and provincial/federal program and policy development. Internal capacity also ensures the inclusion of integrated watershed management principles early in the research planning and policy development stages.

Context

An extensive body of academic literature exists on the management targets, methodologies, and best practices for urban and near-urban ecosystems. This literature has identified habitat connectivity as a lynchpin factor in climate change resilience, biodiversity protection, and the maintenance of ecosystem health at the watershed scale. Many practices and methodologies from the primary literature are transferrable to the Toronto region; however associated ecological targets must be customized to be relevant and defensible in a specific local or regional context.

In the past, TRCA has worked with municipal and provincial partners, academic institutions, and other stakeholders to fill data and target gaps. Examples include the Terrestrial Natural Heritage System Strategy (2007) that sets terrestrial habitat objectives at a region-wide scale, as well as individual watershed fisheries management plans that outline river and stream conditions necessary to support diverse and abundant fish populations. Target values for many critical ecosystem components, however, remain outstanding. Further, most existing aquatic and terrestrial objectives have yet to be fully integrated. As a result, many important ecosystem interrelationships may be inadequately managed and regulated through existing TRCA policy and planning processes.

Stressors and Opportunities

The Toronto region is home to many academic and government research. With adequate and sustained funding, few barriers are anticipated to assembling credible research teams capable of synthesizing defensible ecological targets for the Toronto region.

Climate change is expected to result in a southern Ontario climate that is warmer and more variable 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. At present, there is a significant need for climate change considerations to be incorporated into new and existing ecosystem targets, particularly in regard to habitat connectivity. Connected habitats increase the probability that climate stressed organisms can migrate - either through direct locomotion (fauna) or seed dispersion (flora) - toward more hospitable conditions. In the absence of habitat connectivity and constrained movement, many species may be extirpated and regional biodiversity and ecosystem health will be reduced. Ecological targets that incorporate interconnected terrestrial and aquatic habitat considerations pose an opportunity to mitigate this risk.

Ongoing urbanization activities – both Greenfield development and urban retrofit – pose both opportunities and threats to a sustainable urban/ecosystem balance. The population of the TRCA’s jurisdiction is anticipated to increase 6.8% in the coming four years. This growth, combined with the renewal of existing aging infrastructure, will involve the planning and review of projects of sufficient scale to significantly enhance or undermine ecological objectives. Lacking an adequate suite of ecological targets, it is unlikely that development and associated infrastructure implementation will see potential benefits realized or significant threats avoided.

Funding

Funding for ecosystem management is obtained primarily through municipal levy and government grants.

Direct Actions and Activities

Ecosystem Management Research and Directions synthesizes the outcomes of primary research with local data to develop ecosystem targets, management strategies, and practices sensitive to local meteorological, hydrogeological, ecosystem, and policy considerations. As needed or when mutually beneficial, TRCA partners with academic, public, and/or private sector groups to undertake novel or supplementary research on questions of urban and near-urban ecological health and management.

Data and analysis outputs are used to support the implementation and/or update of internal strategy documents, planning and development policies, and ecological restoration and remediation activities. Current initiatives in this regard include the identification and ranking of priority restoration sites, the development of a protocol to ensure terrestrial ecosystems lost in development are adequately replaced, and the re-evaluation of stream crossing structures to ensure sufficient habitat connectivity.

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
- The Watershed Planning and Reporting processes help identify and situate data and knowledge gaps within an integrated watershed management perspective
- Restoration and Regeneration initiatives and the monitoring of site performance following remediation activities, support best practice evaluation and adaptive management
- Living City Transition helps support best practice demonstration, knowledge mobilization and citizen science engagement activities.

Key Outcomes

- TRCA conducts and advances state-of-the-science urban ecosystem planning
- Municipal partners technical and policy/planning needs are adequately supported; plans and recommendations are based on defensible data and supporting science
- TRCA science/engineering/technical insights are reflected in municipal Official Plans, strategies, as well as other relevant internal and external documents and regulations
- Indicators of watershed health improve, in particular those related to terrestrial and aquatic ecosystem health
- Data analyses are of sufficient quality to be utilized by academic research partners and published in peer-reviewed publications

Key Activities – 2017-2020

- Develop a prioritized research agenda to address data and knowledge gaps
- Provide science and tools to assess and manage risk and opportunity associated with extreme weather and changing climate
- Complete and implement the Ecosystem Compensation Program
- Complete and implement the TRCA Crossing Guidelines for Valley and Stream protocol
- Continue development and implementation of the Restoration Opportunities Bank

Outlook

The agenda for Ecosystem Management Research and Directions will continue to be sensitive and adaptive to emerging scientific research and ecosystem data as well as municipal partner needs. In addition to maintaining a research agenda at the intersection of urban development and ecosystem science, TRCA anticipates incorporating the economic perspective more frequently in coming years. The economic dimension of ecosystem health, and changes thereof, are captured by the evolving field of ecosystem valuation (which provides a monetary equivalent of the value of ecosystem goods and services). As the practice and expertise around this discipline become more standardized and readily available, TRCA expects to increasingly incorporate this dimension in the dialogue around urban ecosystem priorities and alternatives.

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, federal and provincial 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 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 empiric and theoretical foundation for many of TRCA initiatives. Many of this program’s 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 that 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 primarily through municipal levy, federal funding and special capital projects. Significant in-kind contributions are made by Ontario Ministry of 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 the above, TRCA conducts a Terrestrial Biological Inventory and Assessment on lands acquired or scheduled for development. By applying the same methodologies as at fixed plot monitoring sites, TRCA garners data that inform regional analysis and perspectives 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 program collects data that provide physical and chemical context to the ecological data collected by the Biodiversity Monitoring program
- Watershed Planning and Reporting, 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 needs

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 – 2017-2020

- 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 our understanding of the issues and outcomes related to regional biodiversity.

Restoration and Regeneration

Objectives:

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

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 habitat implementation plans and permitting services, make TRCA’s offerings unique in the delivery of both economic and environmental value-added services.

Context

Healthy natural systems rely on functional hydrologic and landform processes and vegetative cover. Impairment occurs when those processes have been altered. The current state of the Toronto region represents over 100 years of such alterations; these extend from initial deforestation 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 an 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 initiatives, TRCA is a founding member of Aquatic Habitat Toronto; this group includes municipal, provincial, and federal partners as well as Waterfront Toronto. At present no equivalent exists for the coordination and acceleration of terrestrial project planning and implementation, however TRCA maintains positive relationships with each of the relevant stakeholders for terrestrial initiatives.

Stressors and Opportunities

Continued development and urbanization of the Toronto region will continue to compromise natural features, communities, and processes. Through internal collaboration with internal divisions addressing flood and erosion risk, urban infrastructure retrofit, and regulatory planning and permitting processes, however, 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 at which the 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 that of summer 2013, can significantly increase priority restoration site count 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 a need for restoration and regeneration over very large areas.

Funding

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

Direct Actions and Activities

Restoration sites are identified through field assessments; priority restoration site rankings 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. In 2015, TRCA implemented over 112 restoration projects which restored 1,649 metres of stream and shoreline, 100.09 hectares of wetland and terrestrial habitat, 21 in-stream barriers were removed and 996 habitat structures were installed.

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 informative 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 – 2017 - 2020

- Continue to provide expert technical guidance to municipal and agency partners on the natural systems, terrestrial and aquatic habitat, and green infrastructure
- Conduct annual monitoring to report the health and condition of the watershed within TRCA's jurisdiction, as well as track the changes in health, condition and regional biodiversity over time
- 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 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 hardy native plant materials well adapted to local conditions.

Context

TRCA manages over 6,000 hectares (15,000 acres) of forested lands within its jurisdiction. Active management of forests greatly improves positive forest attributes including biodiversity, resilience to insects and disease, wildlife habitat value, environmental protection, stormwater management and long-term survival.

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

The Emerald Ash Borer (EAB) is an invasive species that kills host ash trees. Despite substantial research and control efforts, this beetle 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 compressed the anticipated ash tree mortality curve; within TRCA's jurisdiction it is believed that ash mortality will peak in 2015/2016 and diminish thereafter as ash tree populations decline.

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 the forest resource and its ability to sustain its 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 risk 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.

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.

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 program to protect and grow the publicly held and managed forested land base for a variety of green space values and sustainable nature based recreation activities
- Risk mitigation activities that include hazard tree monitoring and abatement to provide a safe environment for users of TRCA properties
- Terrestrial Natural Heritage Strategy that establishes targeted priority enhancement areas for natural cover on the landscape
- Regional Monitoring program to 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 mitigation
- Contribute to landowner and/or citizen benefits including:
 - Improve outdoor recreation opportunities and realize attendant academic, health, and wellbeing benefits
 - Reduce private property energy costs (shade and shelter)
 - Increase social and community well-being through collective contribution to the natural environment

Key Activities – 2017-2020

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

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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Greenspace Securement and Management

Greenspace Securement	6,185	5,518	374	30	159	96	(8)		(8)
Greenspace Management	2,727	10	10	654	2,228	-	175		175
Rental Properties	2,075	-	2,495	-	-	-	420	388	808
	10,987	5,528	2,879	684	2,387	96	587	388	975

2016 Full-time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	23.61	13.71	37.32	
2016	20.3	6.19	26.49	-29.0%

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 the recreational health benefits by allowing for public use and enjoyment

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.” This securement allows for the protection of 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 the 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. Greenspace securement is primarily achieved through the Greenlands Acquisition Project 2016-2020.

Context

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

Stressors and Opportunities

TRCA is currently constrained in being able 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 due to the Environment Canada’s Ecological Gifts Program, which allows donors to use their charitable tax receipt for up to 10 years, offsetting up to 100% of their annual income. While such transactions bring important natural heritage features into public ownership, they are opportunity based and 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 environmental significant lands as identified by TRCA. These regional and municipal initiatives are 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 the target of 1,000 hectares or 90% established in the Greenlands Acquisition Project for 2011-2015. The Greenlands Acquisition Project for 2016-2020 identifies funding partners and estimated financial contributions over its five year duration. Based on recent rate projections, it is estimated that 1,000 hectares (2,500 acres) could be secured during the period of this acquisition project.

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

- Acquisition of greenspace in support of TRCA's 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
- Protection of environmentally significant land/greenspace including terrestrial and aquatic habitat
- Protection of greenspace for health and wellness benefits including air and water quality preservation, trails and active recreation, social enhancement, and aesthetic benefits
- Increased use of natural features in the attractiveness of the Toronto region as a location for business and residence

Key Activities – 2017 - 2020

- Implement the Greenlands Acquisition Project for 2016-2020
 - Acquire lots of record that are located in the flood plain or in ecologically or hydrologically important areas
 - Secure areas for source water protection, as they are identified
 - 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 around existing TRCA properties, to amass larger areas
 - Communicate the benefits of the Ecological Gifts Program to private landowners

Outlook

Greenspace Securement is delivered primarily through the Greenlands Acquisition Project 2016-2020 and will continue in its present form. This new project will include 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:

- Extensive networks of healthy and sustainable greenspace
- Improved protection of Toronto region's natural systems
- Increased public utilization and enjoyment of greenspace, with individual and social health and wellbeing benefits

Program Features

Positioning

The *Conservation Authorities Act (1946)* provides the legal basis 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, as well as 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 7.3% of TRCA's jurisdiction). TRCA's ownership enables the protection and management of valley and stream corridors, flood plains, the Lake Ontario shore lands, wildlife, vegetation and environmentally significant areas. Over half of TRCA-owned lands are managed outright by TRCA and offer limited or no public access (8,300 hectares), or instead serve as conservation parks and education field centres (530 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 within communities. Trail linkages include those within ravine systems and on the Lake Ontario shoreline. 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 greenspace provide opportunities for minor recreational use or passive non-intrusive uses, 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

The Toronto region faces a rapidly growing urban population with increasing demand for access to greenspace, greenspace that is declining in quality. To meet future needs, greenspace planning and management must be addressed as an integrated system. To this end, TRCA will assist municipal partners in the development of a greenspace network that maximizes community wellbeing and local ecosystem protection. Opportunities 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.

TRCA lacks stable funding to ensure comprehensive site securement and/or maintain state of good repair on existing infrastructure. Funding to develop additional land management or public use plans (to proactively prepare for future public needs for accessible greenspace) is also lacking. The absence of stable public funding indexed to land securement 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 complement TRCA's aim 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 supported by the following TRCA activities:

- Greenspace Securement and Rental program initiatives bring new lands into TRCA ownership 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 directly coordinates with land management actions on lands where public access is permitted
- Conservation Parks and School Program field centres include high-intensity public uses such as campgrounds, swimming facilities, educational programming and facilities etc. However, the basic land management requirements for these lands are still consistent with a broader land management framework for all TRCA lands
- Community Engagement programs are involved in the development and implementation of land management plans and programs

Key Outcomes

- Identify and protect ecological functions and services and cultural heritage on TRCA lands
- Provide safe, sustainable public recreation opportunities (where appropriate) and reduce/mitigate TRCA liability and risk as a landowner
- Undertake responsible steward/partnership with respect to aboriginal engagement and heritage
- Improve individual and social health and wellbeing indicators by providing safe access to natural environment interaction and activity

Key Activities – 2017 - 2020

- Initial inventory of new property acquisitions and greenspace not previously assessed
- Ongoing audit of TRCA property boundaries
- Ongoing assessment and abatement of hazard trees along prescribed property boundaries.
- Ongoing greenspace operation activities including site securement, encroachment removal, hazard identification and mitigation
- Development of jurisdiction-wide Trail Strategy and *Greenspace Strategy*
- *Ongoing preparation of property specific management and master plans to protect environmental features and identify appropriate nature based recreation activities that could 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 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 program 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 will 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 does 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 being impacted, the dwellings/outbuildings and suitable land are being 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 revenues to support other corporate projects.

Context

TRCA currently manages 163 leases comprised of 118 residential leases, 19 farm land leases, 8 commercial leases, together with 18 ancillary land use leases. Commercial leases include but are not limited to, cellular telecommunication towers, Wild Water Kingdom, Frenchman's Bay Club, and the Claireville Ranch. TRCA also rents more than 2,534 acres of land for farming purposes, which includes near urban farm agricultural agreements. TRCA in partnership with trail organizers and school boards has entered into trail agreements and field school agreements.

Stressors and Opportunities

A key stressor associated with maximizing rental income is the age of the structures. Older homes have poor insulation, are more difficult to heat and maintain. Budgetary constraints limit the capital expenditures available for this purpose. 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 of time. At the end of the lease period TRCA would have a housing unit in an improved and habitable condition.

TRCA continues to explore and pursue revenue generating opportunities from the lease of TRCA land. Some examples include expanding near urban agricultural opportunities and trail agreements. These opportunities contribute to community engagement, i.e. trail users and ability to purchase locally grown food.

Funding

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

Direct Actions and Activities

The residential component of the portfolio is governed by the Residential Tenancies Act, 2006. Rental related activities include, managing rental payments, rental expenditures and terms and conditions of the leases, and includes the renewal of leases and filling of vacancies. This includes the negotiation of new commercial leases and long term restoration agreements. Furthermore, TRCA arranges for regular and major maintenance repairs to the structures, as well as prepares 10 year maintenance plans. TRCA abides by all Ontario Health and Safety Regulations, the *Heritage Act* and the Ontario Building Code.

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 – 2017-2020

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

Outlook

Rental Property income is anticipated to increase in 2016 in accordance with the *Residential Tenancies Act*. Continue to carry out regular and major maintenance on the residential dwellings and manage the rental portfolio. Explore opportunities for long term restoration agreements and commercial leases, in an effort to increase revenues to support other TRCA programs and for asset betterment.

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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Tourism and Recreation

Waterfront Parks	2,832	1,022	4	578	1,228	-	-	-
Conservation Parks	7,085	500	4,295	76	1,078	1,136	-	-
Trails	1,880	20	-	663	241	-	(956)	(956)
Bathurst Glen Golf Course	1,239	149	1,090	-	-	-	-	-
Black Creek Pioneer Village	4,115	285	1,620	-	350	1,782	(78)	(78)
Events and Festivals	724	-	807	-	-	-	83	83
Wedding and Corporate Events	1,754	-	2,008	-	-	-	254	254
	19,629	1,976	9,824	1,317	2,897	2,918	(697)	- (697)

2016 Full-time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	149.57	19.55	169.12	
2016	153.36	26.98	180.34	6.6%

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:
 - Fostering active living through active recreation; and
 - Fostering 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 in support of a vibrant eco-tourism economy.
- Ensure financial sustainability and promote sustainable growth
- Draw and retain regional tourism visitation by developing, operating and maintaining world-class recreational programming, facilities and trails

Program Features

Positioning

Toronto and Region Conservation (TRCA) is the largest landowner 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; in doing so, 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, and are \$6.50 for adults, \$5.50 for seniors, and free admission for children ages 14 and under when accompanied by a paying adult. Park sites for which 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 the greenspaces offered by local municipalities by providing enhanced outdoor recreation offerings that draw users from across the GTA. Conservation Parks offer 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 races, green weddings, and corporate events.

No provincial parks are located within TRCA's jurisdiction, however adjacent municipalities and watersheds with Provincial Parks including 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, however, 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. 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 Rouge Park. It is anticipated, however, that site Rouge 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 with the time and resources to travel to the park. TRCA is taking steps to improve park access and diversify visitation through partnerships with organizations like Park Bus, which provides transportation from Toronto's core to specific TRCA parks, and through the creation of trail connections for active use travel. Further opportunities exist to reduce barriers to access for populations facing constraints to participation in outdoor recreation. TRCA will explore potential partnerships with TTC and other transit providers to this effect.

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 the diverse citizenry of the Toronto region. 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. 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 stressor to TRCA's objective of increasing the quantity and duration of visits to Conservation Parks.

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

TRCA Conservation Parks are funded through general levy and user fees.

Direct Actions and Activities

In 2015, more than 700,000 visitors were hosted at park sites. The majority of day-use visitors were travelling from areas within the GTA.

Administration and upkeep of TRCA Conservation Parks include park maintenance, 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 SOP standard.
- Education and Outreach, Family Programming, and Festivals and Events offer activities and programming that enhance the visitor experience at Conservation parks.

Key Outcomes

- 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

Key Activities – 2017-2020

- 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
- Continue offering accessible amenities and programming to all visitors at Conservation Parks
- Continue addressing 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 containing complementary goods and services. Internally, TRCA will continue to evaluate its park programming and seek to more uniformly distribute its 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, and public 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. 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 Colonel Samuel Smith Park, Mimico Waterfront Park, Humber Bay Park Complex, Ashbridges Bay Park, Tommy Thompson Park, Bluffer's Park, and Port Union Waterfront Park.

Many of TRCA's waterfront park holdings contain stretches of the Waterfront Trail network. Free and accessed by many millions of users each year, the Waterfront Trail extends over 1,600 km along the Canadian shores of Lake Ontario, Lake Erie, and Lake St. Clair and the Niagara, Detroit and St. Lawrence Rivers; the trail connects 75 communities, over 405 parks, and 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 use 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 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, and 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 for its role as a stopover site during spring and fall migrations. Similarly, aquatic works such as the habitat and wetland at Spadina Quay increase feeding and breeding sites for resident fish populations (in turn supporting local recreational fisheries). The continued deliberate and directed implementation of habitat works at waterfront park locations poses the 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 Waterfront Park Program is recognized and accessed by several partner municipalities and other Conservation Authorities; 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 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

- Watershed Planning and Reporting helps guide park development and implementation
- Water Risk Management evaluates and addresses erosion/undermining risks identified along the waterfront, including those located in waterfront parks
- Restoration and Regeneration contribute and collaborate in the development and implementation of Waterfront Parks to realize terrestrial and aquatic habitat opportunities
- Greenspace Securement address property-related matters that may occasionally arise in the waterfront park development process
- Archaeology Services prepare any necessary documentation and First Nations engagement for waterfront park initiatives
- Community Engagement and Marketing and Communications assist with stakeholder and public engagement

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 – 2017-2020

- Continue development of the Scarborough Waterfront Project and Scarborough Bluffs West project
- Undertake revitalization projects at Humber Bay Park (east and west), shoreline improvements at Marie Curtis Park East, and shoreline and waterfront amenities at Paradise Beach Park
- Continue to advance the Rotary Frenchman's Bay Master Plan and implement the Tommy Thompson Park Master Plan
- Investigate the feasibility of providing increased watersport activities and other public amenities along the Western Beaches

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
- A network of greenspace and green infrastructure that weaves through every community to connect a healthy and resilient landscape
- Increased financial resilience for TRCA through stable and diversified funding

Program Features

Positioning

TRCA continues a decade's long legacy of public land acquisition to protect and manage valley and stream corridors, flood plains, the Lake Ontario shoreline lands, wildlife, vegetation and environmentally significant areas. This system should be further developed to reach its potential to provide sustainable nature-based recreation experiences for a growing population and support healthy communities, interpretation of natural and cultural heritage, links with local neighborhoods and connections to surrounding watersheds and regions.

As the largest landowner in the Greater Toronto Area, TRCA is well positioned to be a leader in the planning, implementation and management of trails and associated infrastructure to provide safe, enjoyable recreational trail experiences for area residents and visitors while ensuring that natural and cultural heritage resources are protected. TRCA's trail management activities compliment 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 must remain flexible and able to adapt to these changes while remaining firmly rooted in the protection of the environment.

Context

TRCA's trails are valuable infrastructure that provide a myriad of public benefits and recreation opportunities. TRCA owns and operates over 600 kilometres of local and inter-regional trails across its jurisdiction. These are travel destinations themselves but also provide invaluable links between other TRCA, municipal and community facilities. These assets must be managed in a way that addresses TRCA's liability and risk while also offering accessible and enjoyable recreation experiences.

TRCA and its municipal partners manage trails, conservation areas and parks within communities, continuously linked along the ravine system, and ultimately linked with trails on the Lake Ontario shoreline. 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

Stressors and Opportunities

Faced with declining quality of much of the greenspace in the region and increased demands for this essential resource by a rapidly growing urban population, now is the opportune time to rethink greenspace as an integrated system. Through thoughtful planning and action we will help develop a network of greenspace for the Toronto region that maximizes community wellbeing and protection of our local ecosystems. This will include helping people become healthier and happier by promoting appropriate access to existing nature and by creating new green infrastructure in urban areas. To ensure that future generations also benefit from greenspace, we will also create awareness of the need to invest in its long-term management and renewal.

Funding

Funding for Trails 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, 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:

- TRCA's Greenspace Management program is directly coordinated with Trails actions on lands where public access is permitted
- Greenspace Securement program initiatives bring new lands into TRCA ownership and can facilitate local or regional trail connection objectives
- Conservation Parks and Field Centres include high-intensity public uses such as campgrounds, swimming facilities, educational programming and facilities etc. However, the basic trail planning and management requirements and for these lands 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 management plans and programs

Key Outcomes

- Contribute towards 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 – 2017-2020

- Complete final draft of TRCA's Trail Strategy
- Initial inventory of trails on new property acquisitions and lands not previously assessed
- Ongoing audit of authorized trails
- Ongoing assessment and abatement of hazard trees along authorized trails
- Coordinate and implement recommendations and deliverables stemming from trail planning activities including new trail construction, improvement of existing trails, trail re-routing and trail decommissioning and restoration

Outlook

At present, funding support for the Trails Program is inconsistent across TRCA's jurisdiction. Where financial support is strong, trail management activities can continue to be robust, comprehensive and proactive. However, efforts should be made to pursue long term maintenance and monitoring funding which is tied to capital trail development.

Where little or no support is given, 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 in that region having to be closed to public access. When there is no stable funding, ensuring comprehensive site securement or maintaining state of good repair on existing infrastructure, let alone funding the development of additional trail management or public use plans to proactively prepare for future public demand to access to greenspace, is jeopardized. Alternative management and/or funding models must be sought for these areas 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, implementation 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 (Black Creek) is a living history museum located in the northwest end of Toronto. Black Creek is an important part of the city's cultural fabric, sharing with visitors the history of mid-nineteenth century village life in South Central Ontario. As a popular Toronto heritage attraction, Black Creek draws increased tourism traffic to its host community while carrying out diverse internal operations in support of its educational mandate.

Context

Black Creek is situated at the southeast corner of Jane Street and Steeles Avenue in Toronto - the site of the Stong family farm from 1816 to 1958. Recognizing cultural and historical value in the property and historic buildings on site, TRCA 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.

Black Creek maintains a collection of approximately 50,000 artifacts. Site programming offers 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. Black Creek 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. Black Creek is also used as a venue for wedding and corporate events, and as a location for commercial filming and photography.

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

Stressors and Opportunities

As a steward of Canadian history and heritage, TRCA works to preserve Black Creek's collections through ongoing maintenance and infrastructure improvements. These works include both minor alterations and substantial upgrades to ensure that all structures and facilities meet accessibility requirements, are maintained in a state-of-good-repair, and support ongoing operations and program development. While the maintenance and improvement of Black Creek's heritage buildings support the viability of museum operations and the financial sustainability of the site, they also correlate to 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 Black Creek. This imbalance represents a stressor, as financial analysis indicates that the removal, replacement, and/or significant retrofit of Black Creek's structures is a more viable option than continued maintenance and upgrades.

TRCA recognizes Black Creek'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 Black Creek 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. TRCA must strategically navigate the situation to secure a viable and sustainable future for Black Creek. At present, TRCA is exploring the possibilities and limitations associated with the branding of goods, services, and experiences linked to Black Creek'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 Black Creek 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

Black Creek offers a full calendar of public programs, special events and exhibits that are enjoyed by approximately 70,000 general public users and 50,000 school children each year. It is open to the public between May 1st and December 23rd, during March Break, and for education tours and private bookings year-round.

Black Creek's 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, Black Creek offers education programs for school groups, historic workshops, apprenticeship programs, and exclusive activities for members. Black Creek's McNair Gallery, open to the public during Village operating hours, shares its historic collection through permanent displays and temporary exhibits. Black Creek also partners with other arts, heritage and cultural organizations to curate and present unique annual exhibits. The Black Creek Gift Shop operates around the public hours of the Village and 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 Black Creek 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 Black Creek
- Visitor demographics demonstrate maintained or enhanced demographic diversity
- Strategic partnerships and promotions lead to greater awareness of Black Creek, increased site visitation, increased revenue generation, and greater financial sustainability

Key Activities – 2017-2020

- Continue to develop, fundraise for, and implement the new Black Creek Vision and Black Creek North Lands Master Plan
- Continue ongoing site programming, conservation, and maintenance activities
- Continue to examine the costs, revenues, and attendee demographic profile of Black Creek 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 Black Creek branded products, services, and experiences, including increasing partnerships with commercial entities

Outlook

TRCA will continue to pursue financial sustainability at Black Creek 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 Black Creek daily operations through enhanced project management and technological and operational efficiencies.

TRCA is currently working on fundraising for and implementing the Black Creek Vision and Black Creek North Lands Master Plan. The Black Creek North Lands Master Plan recommends improvements to flood control measures, protection of existing heritage structures, the 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 Vision incorporates the recommendations of the Black Creek North Lands Master Plan while outlining detailed objectives for creating 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 Vision and Black Creek North Lands Master Plan.

Bathurst Glen Golf Course

Objectives:

- Promote positive behavioral change to foster individual and social health and well-being
- Protect and restore ecosystem health and function
- Optimize attendance
- Financial sustainability

Program Features

Positioning

The 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.

Context

Situated within Oak Ridges Corridor Park, the BGGC facility includes an 18-hole executive course and driving range, and 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 development of innovative and unique products and playing opportunities provide an opportunity to 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 to 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 uses the protection of the natural environment as 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 on a golf course. 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 covering the cost of the Oak Ridges Corridor Park through a provincial levy.

Direct Actions and Activities

BGGC's golf course and the driving range facility currently serve over 50,000 people 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

Bathurst Glen Golf Course is complemented by the following TRCA activities:

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

Key Outcomes

- Provide positive and memorable outdoor recreation opportunities
- Develop a sense of well-being through community contribution to the natural environment
- Improve aquatic and terrestrial habitat
- Financially sustainability

Key Activities – 2017-2020

- 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 maintained Audubon Cooperative Sanctuary certification, will be 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 the facility's financial sustainability and customer experience.

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 can host and promote of 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 Kortright Centre for Conservation. Site 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 staffing or site infrastructure.

TRCA public use facilities are accessible during their respective operating seasons, and most charge a modest entrance fee of only 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 site with public amenities. To the greatest extent possible, TRCA manages 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 completing user group demands will be required to ensure TRCA continues to deliver high quality experiences for all.

Funding

Events and Festivals are 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, offer entertainment value, and promote celebration and enjoyment. TRCA hosts approximately 40 events annually, with an estimated 120 event days each year.

Private events, for which TRCA rents out the use of venues, land, or both, include adrenaline races, corporate events, and green weddings. Approximately 350 private events are conducted each year across two hosting sites (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 Events and Festivals
- Education and Outreach may provide programming support to 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 – 2017-2020

- Business development to promote TRCA's Conservation Parks as ideal destinations for event and festival rental venues
- Continued planning and delivery of existing annual events and festivals
- Continue to engage with and implement master plans and vision plans for TRCA facilities that foster the creation of facilities and venues for festivals and events

Outlook

TRCA will continue to work with internal and external proponents to promote its diverse public use facilities as ideal locations to host festivals and events. Open spaces, existing infrastructure, and experienced staff make festivals at TRCA sites unique and memorable. 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.

Weddings 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 staffing or site 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. Weddings and corporate events are private 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 area 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 – 2017-2020

- 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
- Continue to be engaged in and implement master plans and vision plans for TRCA facilities that foster the creation of facilities and venues for weddings and corporate events

Outlook

TRCA will continue to work with internal and external proponents to promote its diverse public use facilities as ideal locations to host wedding and corporate events. Open greenspace, scenic environments, existing infrastructure, and experienced staff make wedding and corporate events at TRCA unique and memorable. 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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Tourism and Recreation

Waterfront Parks	2,832	1,022	4	578	1,228	-	-	-
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Planning Development and Review

Development Planning and Regulation Permitting	4,377	150	5,112	115	-	-	1,000	1,000
Environmental Assessment Planning and Permitting	3,262	989	686	312	362	200	(713)	(713)
Policy Development and Review	887	-	-	-	600	-	(287)	(287)
	8,526	1,139	5,798	427	962	200	-	-

2016 Full-Time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	66.51	3.4	69.91	
2016	68.7	3.5	72.2	3.3%

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, is 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, development and environmental assessment approvals processes as a commenting body, provincially delegated reviewer for natural hazards, 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) and 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 guided 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 revitalization of historic communities within flood vulnerable areas. This complexity is amplified by multiple layers of federal, provincial and municipal plans, policies and regulations as well as diverse and pressing stakeholder considerations. Further, municipal partners and provincial ministries are increasingly requesting TRCA's expertise to assist with such projects. Provided TRCA funding can sustain sufficient 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, Policy Development and Review planning ecology and compliance teams also 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 their analytic expertise of 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-laws updates; it 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, stakeholders (BILD, 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 and Climate Science inform the development of the Living City Policies
- Water Resource Science, Flood and Erosion Management inform the development of the Living City Policies
- Ecosystem Management Research and Directions, Restoration and Regeneration, and Biodiversity Monitoring inform the development of the Living City Policies

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
- Impact of new development and urban intensification and revitalization on water quality, erosion, flood risk and ecosystems is minimized or eliminated
- Planning and Development Review processes yield healthy, sustainable communities resilient to the effects of urbanization and climate change and possessing an effective regional transit systems incorporating active transportation through a connected greenlands system

Key Activities – 2017-2020

- 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 revealed through TRCA's integrated watershed research in 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 currently reviewing of several acts and plans related to planning and development – as well as and the MNR having recently initiated a review of the *Conservation Authorities Act* - Policy Development and Review will continue engaging in these review processes and seeking to ensure that TRCA interests are represented. Any legislative updates or amendments coming out these provincial review processes that hold implications to TRCA's roles and responsibilities will be incorporated into TRCA's 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, is 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*, 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 respective 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 the 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-realty 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.

TRCA Development Planning and Regulation Permitting operate in accordance with, and through delegated authority for all or parts of, the *Conservation Authorities Act*, *Ontario Regulation 166/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*, the *Planning Act* and *Provincial Policy Statement*, the *Environmental Assessment Act*, and Memorandums 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 almost 3.0 million ... to reach over 9.4 million by 2041".¹ In managing this growth and demand, TRCA and its municipal partners will be challenged to mitigate regional-scale risk to public health arising 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, significant downstream effects including compromised groundwater storage and drastically altered river/creek

¹ <http://www.fin.gov.on.ca/en/economy/demographics/projections/>
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Development Planning and Regulation Permitting

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 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 new 2016 fee schedule. Fees are adjusted every 2 years to reflect shifts in workload.

Direct Actions and Activities

Ongoing Toronto region urbanization resulted in 788 new planning and 1194 new permit applications in 2015; 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, geo-environmental 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*. 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 further identify these lands as appropriate for acquisition under the TRCA's *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 undertake 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 and its municipal partners at Ontario Municipal Board (OMB) hearings.

Complementary TRCA Actions and Activities

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

- Planning and Policy staff 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 staff ensures coordination between public infrastructure works and private development projects
- Water Resource Science and Biodiversity Monitoring staff provide data and analysis in support of defensible planning and permitting decisions
- Watershed Planning and Reporting synthesize watershed conditions and provide ecosystem-scale perspective 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 implement restoration needs on acquired sites and implement erosion control works where municipal funding is secured

Key Outcomes

- Prevent, eliminate, or reduce the risk to life and property
- Protect and enhance Toronto and Region's physical and natural heritage
- Ensure the best available science, planning, and design practices, including integrated watershed management, is 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 – 2017-2020

- 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, development stakeholders in the implementation of TRCA's planning and regulatory function.
- Increase procedural transparency and streamline the review and approval process (where appropriate).
- Provide environmental planning and technical expertise and information in the areas of ecology, water resources engineering, geo-environmental engineering, hydrogeology, archaeology, property services, research and development, conservation lands, restoration services and watershed management in accordance with legislated planning and permitting responsibilities.

Outlook

TRCA's Development Planning and Regulatory Permitting function 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 2016 and 2018; 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 Toronto region's physical, natural, and cultural heritage
- Ensure 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 a regulator under the *Conservation Authorities Act*. This dual role positions TRCA to offer value-added environmental assessment consulting services that reduce proponent uncertainty and risk. TRCA's pre and post-submission environmental assessment advisory, 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 enable high levels of in-house expertise to be maintained such that faster and higher quality service can be provided to all clients.

Context

Environmental assessments are undertaken when a project has the potential for negative environmental, social, and/or economic impacts. 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 issues construction permits under Section 28 of the *Conservation Authorities Act*. Under Ontario Regulation 166/06, 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 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*.

While projects governed by the municipal Class Environmental Assessment process and Transit Project Assessment process represent approximately 70% of TRCA's environmental assessment work load, TRCA also reviews projects under individual environmental assessment process, as well as the various class environmental assessment processes or exemption regulations for private and public clients.

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 economic strategies have focused on infrastructure development and renewal as 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 environmental assessment demand associated with these projects. Environmental assessments proceed on irregular schedules involving multiple stages involving high variability in staffing expertise and intensity/duration of effort required. 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 and complexity and workload associated with environmental assessment and permit file review. Creative streamlining measures, funding for technical reviewers and new working relationships need continued development to ensure service delivery standards are maintained.

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 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 compliment, provide continuous improvements to service delivery processes and timelines, increase knowledge and partnerships, and reducing wait and review times.

Direct Actions and Activities

Environmental Assessment Planning and Permitting review of 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, and watershed management. Document review activities are supported by onsite technical and regulatory staff 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 ten 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 a more accurately estimate of the type and intensity of pending EA and, in turn, reduces the risks of under-staffing.

In addition to dedicated service agreements, EA Planning and Permitting staff reviews projects for an additional 12 municipal clients, utility companies, provincial ministries, and private developers on pay-as-you go, fee-for service process.

Complementary TRCA Actions and Activities

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

- Policy Development and Review work with municipal and other government partners to ensure the provides the best available science, planning, and design expertise are incorporated into relevant plans, policies, and strategies as well as oversee permit compliance and enforcement activities
- Water Resource Science, Biodiversity Monitoring, and Watershed Planning and Reporting 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 provides technical expertise that support the success of risk mitigation and project implementation strategies

Key Outcomes

- Service delivery standards are consistently met or exceeded
- Public and private infrastructure is created, enhanced or maintained through an integrated environmental approach that is respective of project costs
- Local, regional and provincial ecosystems quality and function is protected, mitigated or enhanced

Key Activities – 2017-2020

- Work with municipal, provincial, and private development stakeholders in the implementation of TRCA's environmental assessment planning and permitting function
- 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 environmental assessment planning and permitting responsibilities
- Increase procedural transparency and streamline review and approval process (where appropriate)

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, however it is anticipated that additional technical and environmental assessment planning staff will be required to maintain and/or improve current levels of service. TRCA will also seek to build and expand relationships with public and private infrastructure providers to ensure environmental assessment services are meeting regulatory, ecological, and client needs in approaches to project management and review that 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 Programs



Newcomer Employment and Education

Education and Outreach

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Education and Outreach

School Programs	10,311	2,210	3,070	439	3,729	884	21		21
Family and Community Programs	767	92	87	10	619	9	50		50
Newcomer Services	1,286	752	255	-	229	-	(50)		(50)
	<u>12,364</u>	<u>3,054</u>	<u>3,412</u>	<u>449</u>	<u>4,577</u>	<u>893</u>	<u>21</u>	<u>-</u>	<u>21</u>

2016 Full-Time Equivalent Employees (FTEs)				
	Operating	Capital	Total	% Change Over 2015
2015	62.64	13.77	76.41	
2016	63.28	16.05	79.33	3.8%

School Programs

Objectives:

- Improve knowledge, understanding and awareness related to the 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 to youth 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 to co-create programs tailored for both classroom and TRCA field trip locations.

With the ability to attract 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 week-long programming at its three field centres, offering in-class visits, and hosting 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 and Tommy Thompson Park sites.

The population of enrolled K-12 students in the Toronto region is predicted to be stable and/or growing in coming years. This dynamic suggests TRCA programs will have a predictable market 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 program 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 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 with students 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. Currently, philanthropic sector interest in youth and the environment mitigate the effects of economic disparity on equitable program delivery. 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 programs are also supported through both general and municipal levy, provincial and federal grants(s), and private or philanthropic funding.

Direct Actions and Activities

Program offerings are most frequently delivered through some combination of classroom sessions, field trips to natural environments, or a combination thereof. 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 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 programs 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 and 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 on 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 – 2017-2020

- Initiate redesign of current School Program 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. As this programming is brought online, school program 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 attendee 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; the maximum predicted local market size for family programs is approximately 600,000 families. In addition to this 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 onsite staffing and/or site facilities. Some onsite infrastructure, for example maple sugar shacks, has been installed at TRCA sites specifically for 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

In general, Family and Community Program delivery is constrained by lack of transportation, audience uptake, available space at the hosting venue, qualified program delivery staff and funding available to support the programming.

Family and Community Programs offer a mediated discourse within and about the natural environment. As such, they represent an important tool for engaging those unaccustomed to spending time in the natural environment in 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. Because they are frequently offered at sites requiring vehicle access, however, Family and Community Programs currently disproportionately benefit families with the time and resources to travel to programming sites. Families unable to marshal the requisite time and resources to travel are less likely to partake in natural environment programming.

Funding

Admission fees for Family and Community Programs range from being 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 that is delivered in a family-friendly manner. Each year TRCA delivers approximately 50 Family and Community Programs from 22 different program offerings at 11 different sites including Tommy

Thompson Park, Kortright Centre for Conservation, Bolton Camp, McVean Farm, and Cold Creek. Enrollment/participation in each program includes approximately 1-2 TRCA facilitators and 10 to 350 participants.

Many Family and Community Programs are seasonal in nature, 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. Others are offered year round and engage a particular audience type such as parent and tot programs or children with physical or cognitive impairments (Nature Therapy program). 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 Program offerings are available and of interest to diverse participant categories

Key Activities – 2017- 2020

- Continue to design and deliver Family and Community Program 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

Outlook

In coming years, TRCA Family and Community Programming 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 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

Program Features

Positioning

TRCA provides support services for new Canadians to settle socially, culturally, academically and economically into the Toronto region. These services are part of the social equity aspect of TRCA's sustainability work and focus on improving settlement outcomes within the New Canadian community and 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 supports for new Canadians through bridge training activities that address current and future labour market shortages. Additionally, TRCA provides services to the employment sector that supports the successful integration and retention of new Canadians within the work force. TRCA also develops and delivers programming to expose newcomers to local environmental issues and topics.

Context

Canada receives over 260,000 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, Immigration and International Trade (MCIIT) 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 also increase demand for ESL learning classes offered by TRCA's Multicultural Connections Program. This will result in the opportunity to reach a greater number of participants through these services provided program funding levels increase in concert with demand.

Funding

The Ministry of Citizenship, Immigration and International Trade 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.

English as Second Language (ESL) presentations and the Environmental Experience Subsidy component of 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 foreign trained professionals. This program is undertaken by participants on a part-time basis and includes approximately 230 direct programming hours including Canadian professional and workplace skills 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, which are often culturally and economically exclusive and 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, 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 – 2017-2020

- Professional training and development programming in response to market deficiencies and demands
- Capacity building within the employment sector to better integrate and retain new Canadians
- Redesign the foreign-trained worker training and development program to reduce per participant cost, 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 be more tightly integrated with complementary TRCA programming and effectively target community needs at scale. The current reliance on program funding from MCIT will be mitigated by bundling foreign-trained professional job development programming with new youth employment initiatives; this program expansion is anticipated to meet wider community needs, achieve economies of scale and diversify external funding sources. The scope and specificity of populations served 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



Social Enterprise Development

Sustainable Communities

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserves	Net Budget
	Government Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Sustainable Communities

Living City Transition Program

6,740 1,547 887 709 3,446 151 - -

Community Engagement

4,321 540 - 302 2,581 894 (4) (4)

11,061 2,087 887 1,011 6,027 1,045 (4) - (4)

2016 Full-Time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	10.88	54.11	64.99	
2016	10.94	58.18	69.12	6.4%

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 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 otherwise 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 of and/or retrofit to environmentally sustainable best practices, and attendant environmental conditions and outcomes. This program area responds to limited uptake of sustainable practices; causes behind this observation include higher implementation expense, absence of performance validation and/or regulatory/policy incentives, lack of best practices knowledge, and lack of relevant community structures and expectations in support of sustainable practice implementation.

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 Toronto and 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.

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, contracted services and fees.

Direct Actions and Activities

TRCA operates an extensive sustainable technology testing and verification facility at the Kortright Living City Campus (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 Kortright 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 convenes several networks (based on proximity, industry, or a combination thereof) to promote the creation and uptake of sustainability focused corporate social responsibility initiatives. These networks seek to accelerate the identification, adoption, and sharing 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 acts as 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 an Annual Climate Change Symposium; advancing the understanding and application of vulnerability and risk assessment across sectors for adaptation planning; assessing emerging provincial policy and program changes to identify funding opportunities that accelerate the implementation of mitigation practices, and; exploring opportunities for a single coordinated provincial access portal for climate information and interpretation.

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 reduce 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 neighborhood scale, TRCA engages directly with citizens 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.

Complementary TRCA Actions and Activities

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

- Watershed Planning and Reporting delineate 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 / non-formal education and training of industry professionals, youth, and foreign trained professionals

Key Outcomes

- Corporate sustainability initiatives in diverse sectors accelerate the iteration and uptake of effective sustainability measures
- Technologies for improving energy and water efficiency, and reducing stormwater impacts, are identified and broadly implemented within 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 improving reducing their environmental footprint
- Defensible, expert climate change mitigation and adaptation guidance and best practices are provided to internal, municipal, provincial, federal and private sector partners
- Green jobs

Key Activities – 2017-2020

- Develop new program directions, sustain existing activities, 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 business parks and centres within partner municipalities
- Work with partners to develop and implement building-related emission reduction programs
- Scale up the Ontario Climate Consortium's climate services and low-carbon research agenda
- 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 programs with the highest 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 with 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

For over 50 years, TRCA has been trusted by municipal partners and citizens to deliver environmental stewardship programming and support. 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 a population of over 4.5 million citizens across 18 municipalities. This population is expanding - the population of the GTA increases at an annual rate of ~1.4%. Community Engagement activities are in large part directed to support TRCA's nine watershed plans and strategies and individual projects in support of these initiatives; projects and programs such as tree planting and Citizen Science foster environmental stewardship and encourage citizen and community groups to gain an understanding of conservation and watershed management issues. Community participation in conservation programs further seeks to motivate individuals and communities to undertake independent initiatives that complement TRCA objectives.

Community Engagement activities build capacity and assists neighbourhoods, businesses, governments and non-governmental organizations to identify and implement strategies and actions in support of collective advancement toward socially, economically, and environmentally resilient communities.

Stressors and Opportunities

The increasing size and diversity of the GTA population increases the scope and scale of resources required to meaningfully engage a given fraction of citizens. Accordingly, TRCA's relative ability to engage citizens within its jurisdiction will decrease if community engagement resources remain static. This 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 GTA population would continue to disproportionately favour the perspective of existing known contacts and participants (and the particular demographics these groups represent) 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 of 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 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 would be inappropriate and/or would 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 direct 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, have an understanding of conservation and watershed management issues and participate in and/or support conservation programs
- 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
- TRCA watershed plan development involves a wide variety of stakeholders from public, private and non-profit sectors, community groups and the general public
- 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 – 2017-2020

- Develop and implement a new framework to increase the engagement of stakeholders in TRCA watershed planning and reporting implementation
- Build capacity and assist neighbourhoods, businesses, governments and non-government organizations to identify and implement strategies and actions that facilitate and accelerate their progress towards socially, environmentally and economically resilient communities
- Modify existing outreach programming, as appropriate, to incorporate climate change mitigation and adaptation information

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

2016 Budget

(\$000)

Gross Expenditures	Sources of Revenue					Surplus/ (Deficit)	Reserve s	Net Budget
	Governmen t Grants and Other	User Fees	Contract Services	Capital Levy	Operating Levy			

Corporate Services

Corporate Management and Governance

5,702 177 81 - 1,012 4,267 (165) 353 188

Financial Management

2,290 720 - - - 1,470 (100) 100 -

Human Resources

1,040 - - - - 1,040 - 125 125

Corporate Communications

1,553 - - - - 373 (1,180) - (1,180)

Information Infrastructure and Management

2,679 - 10 - 404 100 (2,165) - (2,165)

Vehicles and Equipment

- - - - - - - - -

Project Recoveries

(3,029) - - - - - 3,028 - 3,028

10,235 897 91 - 1,416 7,250 (582) 578 -

2016 Full-Time Equivalent Employees (FTEs)

	Operating	Capital	Total	% Change Over 2015
2015	81.35	1.34	82.69	
2016	85.69	2.4	88.09	6.5%

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 the role of the CEO's Office – function internally and externally to represent TRCA as a corporate entity and implement corporate governance mandates. Management of the TRCA board governance process ensure TRCA strategic positioning, and actions thereof, are 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, TRCA policy and approach 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/Tosorontio). TRCA strategy and governance direction is taken from the Act and other legislation, its municipal partners political and programmatic needs and 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 the Chief Executive Officer title to emphasize the responsibility for determining strategic directions 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 shepherded by TRCA's CEO 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 2016; 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 expanded advisory roles to its partners regarding 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 to 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 recently released Crombie panel review of Ontario's Greenbelt and Growth plans (2015) 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 emerges, 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 literal and figurative hurricanes emerging from rapidly evolving environmental, social, and economic trends.

In the next five years, five of seven positions 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 appointed within the last year (2015). This turnover in senior staff represents both a stressor and opportunity with respect to organizational stability and approach. The restructuring of the staff organization in 2015 created a number of new senior opportunities for the development of future Directors, and development of TRCA's Strategy Committee provides expanded opportunities for members of TRCA's senior leadership team 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 staff of the respective affected division(s).

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 – 2017-2020

- 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

Outlook

In the coming years TRCA will experience a period of change and renewal. In addition to its transition to a new senior leadership team, TRCA also will relocate into 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 its 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 also 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.

As referenced above, 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 such 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 financial 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 delivers a variety of services which demonstrate financial stewardship and accountability, principally to government stakeholders which provide approximately 74% of the total funding to TRCA. 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 in its ability to deliver effective programming.

Context

TRCA manages an annual budget in excess of \$100 million, funded predominantly from government funding, contracted services and user fees. Programming is delivered throughout TRCA's area of jurisdiction which includes the City of Toronto, and 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 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 for the fiscal year 2018 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. Because these systems are not fully integrated, the collection of data and financial reporting is not as efficient as it could be. The challenge for the Financial Management team is to continue to seek integrated solutions or the automation of integration processes, which are currently not automated in all instances.

Deployment of the Agresso 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 provide a significant opportunity to realize decreased operational risk, increased performance, and significant gains in efficiency. The 2016 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 for TRCA's 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 the management of surplus funds and deferred revenues.

Complementary TRCA Actions

Financial Management supports the following TRCA activities:

- Financial Management works 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 to internal and external partners
- Annual audited financial statements free of qualifications
- Maintain TRCA's long-term fiscal viability of the organization through effective financial management

Key Activities - 2017-2020

- Populate and update current fiscal year actuals into the Agresso 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 practices 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 is 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 alternative to these competing employers.

Context

Since its inception in 1957, TRCA's staff complement has grown from 15 to 480 full time staff and 400 contract and/or part-time staff. Growth in staff complement reflects the increased human capital needs to meet the growth in the 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 able to build a systematic, objective evaluation of its existing staff capacity and use this information to support a structured human capital strategy.

Funding

All activities undertaken in Human Resources are 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 offered on an ongoing basis also 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 is 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 upcoming management-level vacancies
- TRCA adheres to and exceeds Ontario Health and Safety legislation, regulations, and internal policies and procedures

Key Activities 2017-2020

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

Outlook

In 2016, TRCA will undertake 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 constructively 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 the provision of additional resources to expand the scope of Human Resources to include proactive and strategic approach 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. 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 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 has audience expectations of customized content and ability to contribute and/or respond to 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. Programs launched more recently, however, are likely to incorporate sophisticated communications strategies that incorporate multiple channels. TRCA programs launched prior to the internet, and for which communications are important, are also increasing in complexity; these programs require updated cohesive communications strategies that engage new audiences while avoiding the alienation of historic audiences.

Stressors and Opportunities

The diversity and ubiquity of communications devices and platforms creates the opportunity for TRCA to expand the scope and scale of its communications to desired audiences. Digital technologies generally reduce distribution 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 therein 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 contain 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 currently developing and implementing 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 the individual project to corporate scale. Programs are developed around key audiences, messages, and media design; communication strategy implementation and success is 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 stakeholders knowledge, perceptions and opinions; responses to such feedback is 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 them 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 - 2017-2020

- 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 affect 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 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, 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 process 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 increasing demand for data storage. TRCA currently houses 12 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 staff 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 another 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.

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, PC's/laptops, and 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 83,700 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 – 2017-2020

- 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 Records Management Policy, Disaster Recovery Policy and Retention Schedule
- Improve Records Series Classification and file structure in the electronic document and records management databases

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.