



INNOVATION

in The Living City

Toronto and Region Conservation Authority

ANNUAL REPORT

2015



Toronto and Region
Conservation
for The Living City®

Member of Conservation Ontario

Message from the CEO

Noted economist and professor, Theodore Levitt once said “Creativity is thinking up new things. Innovation is doing new things.” When it comes to the past six decades of progress made by Toronto and Region Conservation (TRCA), I couldn’t agree more.



We strive to bring innovation to everything we do at TRCA. It’s in the way we see potential in the ordinary, solve problems in creative and effective ways and even in the way we communicate with our municipal partners, our staff, volunteers and members of the public. Innovation has always been a key component of how TRCA goes about its business. The desire to protect and preserve our natural world is a sentiment shared by everyone here on a daily basis. It’s what drives us to do more, to do better. It takes innovation to achieve that outcome in our rapidly growing urban region.

This Annual Report celebrates how TRCA innovates. From advances in flood management technology, to the reimagining of the Mouth of the Don River, to progressive programming aimed at engaging more people to take part in conservation efforts, TRCA has found new and interesting ways of becoming both more efficient and effective in its work. For us, it’s helping to create The Living City that keeps us striving to improve what we do and how we do it.

In my mind, however, one thing is clear. Our success, our innovation comes as a direct result of the shared values and like-mindedness of the communities we serve and the leadership exhibited by our partners and friends. Indeed, we are better together.

TRCA is about to celebrate its 60th birthday and all the progress we’ve made to date. We are obliged to continue the contributions to our rich organizational legacy.

As we look to the future, 2015 may prove to be the tipping point when actions to address climate change started to accelerate. More concentrated work is needed to stop the devastating effects of climate change already being felt around the world. Doing nothing is not an option. Taking action now to prevent the potential for destruction is an imperative. Our future depends on it. TRCA is determined to do its part in finding answers to adapting and mitigating climate change. We’re taking steps now and I’m encouraged by the work that’s underway.

As we celebrate the progress of 2015, I wish to thank everyone for helping TRCA become a leader in both innovative thinking and behavior. In the year ahead, we will continue to build on our successes and challenge ourselves to contribute even more to one of the greatest urban regions on Earth.

Thank you.

A handwritten signature in black ink that reads "Brian Denney". The signature is fluid and cursive.

Brian Denney
Chief Executive Officer

Message from the Chair

Innovation... It's a simple but powerful word. It speaks of doing things in creative, ground-breaking ways. It speaks of going against the grain and rejecting the status quo. It speaks of determination to make things better, often in ways we could have hardly imagined.

For 60 years, TRCA has protected and preserved the natural world. As Chair of the Authority, I have seen first-hand how it embodies innovation. From the restoration of wildlife habitats, reparation of ravines, naturalization of the Mouth of the Don and engagement of the public at Black Creek Pioneer Village, TRCA advances modern and effective methods. We strive to strike a balance between our role as guardians of nature while remaining nimble enough to adapt to the challenges of urban pressures.

The effects of climate change are felt worldwide and the Greater Toronto Area is no exception. Destructive storm events, as the one of July 2013 that caused unprecedented damage across our region, are expected to become more regular and more intense. In preparation, TRCA is taking innovative approaches further, endeavouring to adapt and mitigate climate change in the years to come.

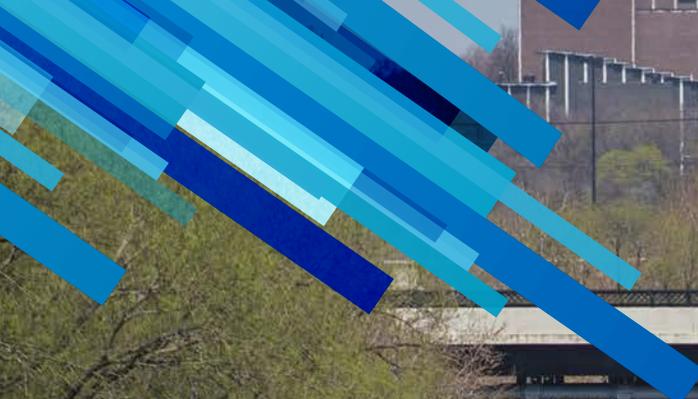
Every day, with the support of municipal partners, volunteers and the public, dedicated TRCA staff work tirelessly to preserve what we hold dear – the natural world we cherish. Together, progress is being made. Species that were thought to be long gone are returning to restored habitats. Armed with new insights, some developers are collaborating with TRCA on projects that keep the environment as a top priority. There is renewed hope, all due to the innovative efforts made along the way.

I am proud to be a member of this organization that leads by example and puts its learnings into practice every day. As we look to the path ahead, I have every confidence the future of TRCA is a bright and promising one.



A handwritten signature in cursive script that reads "Maria Augimeri".

Maria Augimeri
Chair



Innovative Insights:

- TRCA's Etobicoke Mimico team developed a Young Tree Monitoring android app which allows volunteers to use smartphones and/or tablets to help collect the data and images in the field and upload them to a database. Data collected through this program helps TRCA monitor the health of newly planted sites and provides volunteers with opportunities to learn valuable ID skills.
- 40 hectares of land was restored in the creation of the Scarborough Centre Butterfly Trail –part of the Gatineau Hydro Corridor Revitalization Project, which converts ecologically barren mown grass to a natural meadow and multi-use trails.

WATERSHED STUDIES AND STRATEGIES

3,000

visitors attended Richmond Hill's Mill Pond Splash to learn about restoration work and valuable environmental principles.

1,500

people went to See the Salmon Run to connect with the beautiful natural ecosystem found right in their backyard.

325

boats paddled the Don River for The Annual Maulife Paddle the Don to raise money for watershed conservation projects and programs.

4

Watershed tree caching trails were installed in the Humber River and Etobicoke Creek watersheds incorporating over 60 caches, attracting 200 users to this unique nature experience.

260

participants raised funds for watershed stewardship and gained a greater awareness to the importance of watershed health and at The 3rd Annual Dragon Boat Festival at Heart Lake.

4,500 lbs

of garbage and litter was removed from natural areas during the 4th Annual Watershed wide cleanup in the Etobicoke and Mimico Creeks watersheds – part of the Canadian Shoreline Cleanup.

250

cyclists rode the Etobicoke Creek Trail for the 2nd Annual Bike the Creek event to better understand and appreciate the natural and cultural heritage of Brampton and Caledon.

100

participants came together for a two-day workshop at TRCA's Claremont Outdoor Education Centre to further collaboration on Great Lakes work.

In 2015,

TRCA and the Region of Durham formed a partnership to collaboratively complete a watershed plan for Carruthers Creek watershed, which will also involve staff from the municipalities of Ajax and Pickering.

36

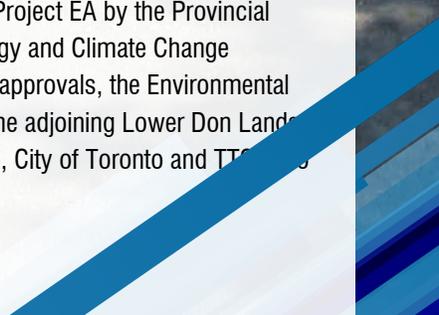
per cent increase in land base to the Rouge National Urban Park, which now includes the Township of Uxbridge in Duffins Creek watershed.





Innovative Insights:

- TRCA developed the first geo-spatial tracking system to demonstrate where stormwater treatment measures have been implemented to document their performance. This tool will aid our municipal partners to operate and maintain these facilities.
- The Minister of the Environment and Climate Change approved the first CTC Source Water Protection Plan to address threats to local drinking water supplies. This marks the beginning of a multi-stakeholder approach and development of effective protection of source water in our region.
- TRCA's long-term planning activities with Waterfront Toronto and the City of Toronto, regarding the mouth of the Don River, have culminated in the approval of the Don Mouth Naturalization and Port Lands Flood Protection Project EA by the Provincial Ministry of the Environment, Energy and Climate Change on January 28, 2015. With these approvals, the Environmental Assessment Master Plan EA for the adjoining Lower Don Lands undertaken by Waterfront Toronto, City of Toronto and TTC came into effect.



WATER RISK MANAGEMENT

16

flood messages issued in 2015 helped municipal partners, school boards and the media with timely information about flood risks and keep the public safe.

11,888

users logged in to TRCA's real-time gauging website in 2015 which provides current and trending information about water levels in rivers and reservoirs.

117

policies written in the CTC Source Water Protection Plan outlined effective strategies to eliminate risks to our local drinking water supplies.

\$5,000,000

was authorized by The City of Toronto to be available for Waterfront Toronto, TRCA, the City of Toronto, and the Toronto Port Lands Company (TPLC) to proceed with due diligence studies for the Port Lands Flood Protection and Enabling Infrastructure Project.

10

homes in Etobicoke were protected from future slope instability and erosion using geotechnical modeling, solutions and materials. New bioengineering techniques and an innovative Mechanically Stabilized Earth (MSE) system were used to stabilize riverbanks and valley slopes.





Innovative Insights:

- 2015 marked the pilot year for the stream crossing road ecology study in the Humber and Rouge watersheds. This work, in partnership with the University of Toronto, provides baseline data on the abundance of individual wildlife species crossing roads and document existing crossing structures.
- The Lakeview Waterfront Connection Project Environmental Assessment received approval from the Ministry of the Environment and Climate Change on May 27 2015. This project will create a new natural park that will establish ecological and public linkages on the eastern Mississauga waterfront, while at the same time, maximize public benefit and value by reusing locally generated fill from Regional and City capital works projects to create the 26ha of coastal waterfront habitats.

REGIONAL BIODIVERSITY

23,592

hours of continuous wetland hydrological data collected for the Wetland Water Balance Project. This data provides valuable long-term information about variations in wetland water levels.

6,238 m

of riparian, stream and shoreline were restored in 2015. At an average walking speed of 5 km/h, it would take you an hour and 15 minutes to walk the length of the total land restored this past year.

4 ha

of coastal wetland created in efforts to transform a confined disposal facility into a 9.3 hectare coastal wetland habitat for fish and wildlife, and a public greenspace for nature-based activities.

11,972,611

data records were collected throughout 2015 which contribute to overall level of knowledge and awareness regarding the status of our natural spaces and species.

8,796 m

valley slope were stabilized and restored throughout TRCA's jurisdiction, improving the safety of both residents and the public.

279,242

native trees, shrubs and aquatic/herbaceous plants were planted throughout TRCA's jurisdiction.





Innovative Insights:

- An investment in survey and mapping technology has allowed us to digitally map archeological sites in the field. Together with LiDAR imaging we are able to generate accurate and detailed maps including 3D modelling of excavated sites. This allows for more efficient analysis and provides interactive visual aids that can aid in interpretation of sites.
- 2015 was the first year TRCA worked in collaboration with Ontario Headwaters Institute (OHI). Together we hosted series of walks highlighting the unique features of headwaters across the TRCA jurisdiction, specifically within the East Duffins, Glen Major Forest and Granger Greenway, and in return educating the public about the importance of headwaters.

GREENSPACE SECUREMENT & MANAGEMENT

103.2 ha

of lands acquired in 2015, bringing TRCA's total of lands secured to 18,112 ha.

56 km

of trail mapped using specialized High Efficiency Trail Assessment Process (HETAP) equipment.

3,000

archaeological artifacts were collected at 4 new sites.

4

public meetings, 6 community input sessions held to engage the public and hear their thoughts regarding the Trail Strategy and Albion Hills Master Plan.

1.5 km

community trail build held by the Nashville Stewardship Committee brought the public and TRCA staff together to create more opportunities for nature recreation.

262

user surveys helped TRCA to better understand user needs and wants when planning for and managing our lands.

594 m

existing trail restored to optimum conditions for users to enjoy.

62

archaeological assessments conducted over 53 acres.

1,615 m

new trail constructed to increase public access to recreation in nature.





Innovative Insights:

- In 2015, Kortright Centre's success has come through developing and maintaining partnerships with multiple agencies. The partnerships included York Region Nature Collaborative, Forest Schools Canada, Dynamix, York Region Early Intervention Services, 5 Peaks Trail Running Series, Urban Nature Store, Royal Ontario Museum, Ontario Nature, Biodiversity Institute of Ontario and the McMichael Canadian Art Collection.
- A partnership with Credit Valley Conservation (CVC) is helping to expand business development opportunities and public use through the 'Explore Together' joint marketing and membership initiatives as well as conservationparks.ca website.
- New innovative and experience-based programs such as the "History Actor" series, the "Grow Garden" and "Discovery Stations" have made visitor experiences at Black Creek Pioneer Village more interactive and engaging than ever before.



TOURISM & RECREATION

742,000

people visited TRCA Conservation Parks in 2015 to take in the beauty and recreation opportunities our parks offer.

122,000

visitors came to Black Creek Pioneer Village in 2015 to experience life of a bygone era.

350

young golfers took part in an eight-week Juniors' Program improving their skills at Bathurst Glen Golf Course.

5,310

visitors engaged in pre-booked outdoor special events such as Family Day, Kite Festival, Honey Harvest Festival, Kreepy Kortright and Christmas at Kortright Centre.

52,000 +

visitors came out to the Sugarbush Maple Syrup Festival, at two TRCA conservation areas; Bruce's Mill and the Kortright Centre, as well as Credit Valley Conservation Authority's Terra Cotta location.



Innovative Insights:

- An innovative collaboration of nine Conservation Authorities on the Oak Ridges Moraine, the Conservation Authorities Moraine Coalition (CAMC) created a major contribution to the Provincial Review of the ORM, Greenbelt, Growth Plan and Niagara Escarpment Plan in 2015, with their formulation and publication of the Report Card on the Environmental Health of the ORM and adjacent Greenbelt Lands.
- TRCA planners provided valuable input to provincial reviews on: the four Provincial Plans, *the Conservation Authorities Act*, *Wetlands*, *the Municipal Act*, and *Bill 73*. Many conservation authority comments that were related to watershed planning and research needs were incorporated into the Crombie Advisory Panel report as recommendations to improve the four Provincial Plans.
- Major accomplishments in 2015 include several Provincial Policy Area (SPA) review milestones: upholding the provincial approval of the Woodbridge SPA in Vaughan before the updated official plan policies for the Unionville SPA in Mississauga, public consultation on the Bolton SPA update in Cambridge, a draft update to Richmond Hill's Lake Wilcox SPA, and the launch of both the Bram East SPA review in Brampton and Mississauga's Applewood, Dixie and Etobicoke SPA reviews as part of the "Dundas Connects" Master Plan. TRCA brings innovative modelling techniques to inform development and risk assessment, urban design, emergency response planning and flood remediation opportunities for these flood vulnerable areas.
- In partnership with the Seaton Landowners' Group and the City of Pickering, TRCA devised an agreement for Watershed Monitoring and Management tied to draft plan approvals and the ongoing construction build out of several new communities housing 70,000 new residents. This \$1.7 million program, obtained through OMB settlement, will assist in refining new approaches to low impact design within these innovative development plans and assessing the success of natural heritage and water management protection and adaption through construction and beyond.



PLANNING & DEVELOPMENT REVIEW

25

TRCA planners, engineers and ecology staff continue to support the development review studies associated with 25 new growth communities, addressing innovations in flood control, water balance, natural heritage system protection and restoration requirements on a site specific basis.

51

Ontario Municipal Board hearings that TRCA planners attended in 2015 to defend provincial interests and provide technical environmental support to municipalities across the jurisdiction.

500

trees in the Humber watershed were planted as part of mitigation measures in the upgrade of watercourse crossings for the completion of Metrolinx's Union-Pearson Express Rail Line.

154

applications have received concept advisory assistance to realize their development aspirations on their properties, in addition to our solicitor-realty inquiry service that addressed 1,000 responses this year.

2

awards were received for The Living City Policies - an OPPI Award of "Planning Excellence" in the category of community planning and development, and OALA conferred its annual award on the document for "Service to the Environment."

2,000

planning and permit applications were received by TRCA – a record-high number.





Community Insights:

... of National Accessibility for Health and
... innovative programs were developed
and p... Outreach program and Explore
Claireville... and connect... people to
connect with our... might... not be
able to do so.

- PAIE (Professional Access Into... adopted new and innovative training strategies converting approximately 50 hours of in-class training into 15 e-learning modules to make it more accessible to program participants on an on-going basis.
- In 2015, The Authority Board approved the Community Learning and Engagement Model, which will create a long-term strategy designed to integrate learning and engagement activities across the life span of our community members.

EDUCATION & OUTREACH

3,072

students participated in TRCA's Integrated Learning Programs that combine in-class sessions with an overnight trip to one of Ontario's leading outdoor education centres.

8,800

participants took in 280 presentations on environmental topics in English as a Second Language (ESL) and Language Instruction for Newcomer (LINC) classes in 2015.

82

per cent of the participants who were successful in accessing employment opportunities in their field through the PAIE program.

14

STEP water training events took place in 2015, including the TRIECA conference, in-class and field training. A total of 2,340 people took part in these sessions.

123

educators engaged in Monarch Teachers' Network of Canada's two-day workshops facilitated by TRCA to learn how to incorporate this magical program on Monarch butterflies and habitat creation in their own classrooms.

121

classes from across Ontario participated in TRCA's unique Integrated Learning Programs.

111

seniors in retirement or nursing homes took part in 10 specialized workshops that helped them reconnect with nature.

140

people took part in the Explore Claireville Walking Series.

400

educators participated in the nature-based early learning workshops.





Innovative Insights:

- TRCA and Ontario Climate Consortium (OCC) developed a methodology to evaluate system vulnerabilities at the watershed scale within the urban context. Through the existence of partnerships, access to academic and agency expertise and international interest in applying climate data across the Great Lakes region, three vulnerability assessments were made and a climate trends report for Peel Region was produced. The OCC's unique collaborative network of leading Ontario universities and practitioners focuses on advancing climate adaptation practice, informing future land use policy, delivering the largest synthesis of regional climate science and mobilizing knowledge.
- Bayview Glen SNAP Glencrest Park Revitalization takes an outdated 1970s park and materializes residents' dreams for the area while in the process putting in place environmental and stormwater protections. It shows how traditional flood remediation can incorporate a historically piped creek, with a system of raingardens that will add long term beauty and ecological function. It will engage and inspire local residents to take action to conserve their water and undertake home retrofits to look after their community.
- Through an innovative business partnership with Enerlife Consulting, the Community Transformation team has developed a new approach to identifying energy cost savings in buildings. Commercial potential has been positioned as the new normal for homeowners who will look for energy performance in buildings.

SUSTAINABLE COMMUNITIES

350,987 lbs

of delicious and nutritious produce were grown at TRCA's four urban farms – McVean Farm in Brampton, the Albion Hills Community Farm in Caledon, the Black Creek Community Farm in Toronto and The Living City Farm in Vaughan.

69

rain barrels were donated to community residents as part of Black Creek SNAP's Harvest the Rain program, to encourage the collection of rainwater.

4,180 tonnes

of ash trees infected by the Emerald Ash Borer were recovered through the Materials Exchange pilots with the City of Toronto, Markham and Richmond Hill, repurposed for furniture, decorative pieces, construction and school woodworking programs.

151

households were selected to upgrade to energy efficient appliances, low-flow toilets and energy efficient windows as part of a home retrofit through County Coot SNAP's Green Home Program.

63

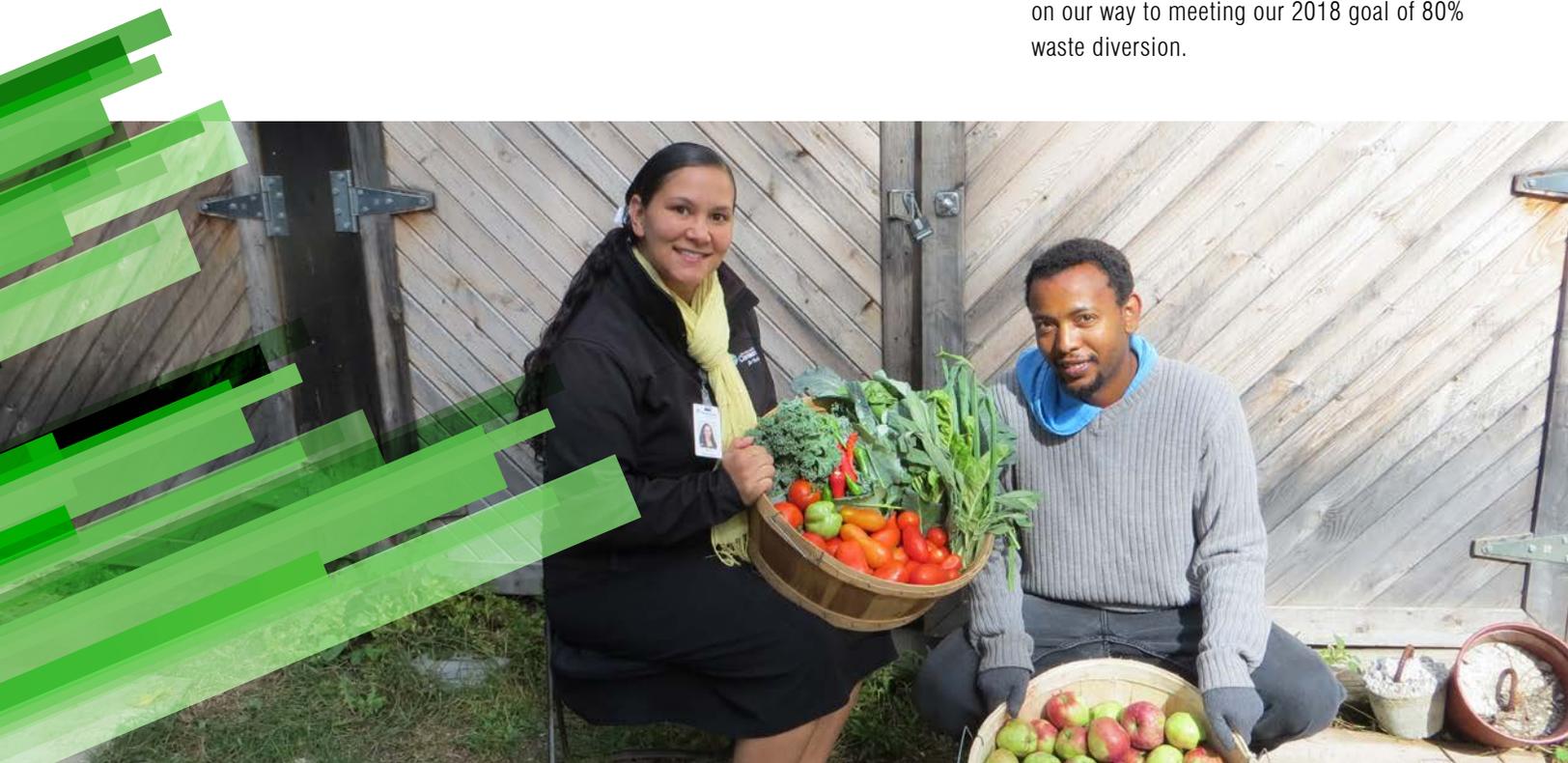
plots in an allotment garden, with raised beds, a tool shed and a composting facility were constructed for residents to grow their own produce as part of Black Creek SNAP's San Romanoway Revival Project.

250

studies were reviewed to inform the assessment of the state of climate science in the Great Lakes Basin.

2015

TRCA waste diversion was 43%. We're well on our way to meeting our 2018 goal of 80% waste diversion.





Innovative Insights:

- By generating and sharing ideas, members of standing committees, exploratory working groups and outcomes-based working groups are strengthening TRCA's culture of collaboration and supporting TRCA senior level leadership on future strategic directions. The five standing committees of the Staff Collab initiative are: Budget Committee, Government Relations, Data and Digital Technology, Asset Management and Innovation.
- When constructed, TRCA's new head office's mechanical design will be heated and cooled through a combination of air source heat pumps and a geo-exchange system. Hot and cool air will be distributed through the building via variable speed drives for fans and pumps, and an under floor air delivery system. Roof-mounted photo voltaic (PV) panels could provide up to five per cent of the total energy load. A green roof system will be featured as well as rainwater harvesting on-site use for toilets and irrigation.
- The Restoration Opportunities Program (ROP) database application tracks potential restoration projects and completed projects in the context of TRCA environmental data. It provides spatial mapping to visualize opportunities and project locations using GIS mapping technology in a browser based tool.
- Toronto - A City of Rivers, an in-depth and interactive ESRI Story Map was created to tell the story of Hurricane Hazel and TRCA's efforts to prevent and mitigate flooding. The technology provides more detailed, accurate, dynamic visuals of surface elevation model.

CORPORATE SERVICES

In 2015

The Centralized Planning and Reporting (CPR) database was completed. This application is a very significant database corporately, as it will house, track and report on almost all TRCA activities, deliverables and be used to measure our success.

\$70,000

in capital costs were saved when TRCA migrated from the Nortel Networks telephone system to a new Mitel VOIP communication system. This Softphone eliminates the purchase of desk phones and allows for interoffice staff mobility.

2051 ha

of vegetation communities were digitized by the TRCA GIS team. 6825 flora species and 4089 fauna species were captured, scored and ranked. 5 Terrestrial Biological Inventory and Assessment reports were produced.

61,189 ft²

of leased space at 101 Exchange Ave in Vaughan went through a major office redesign to accommodate the relocation of 320 TRCA staff, representing five divisions, previously located in five different office locations.

100,000 sq. ft

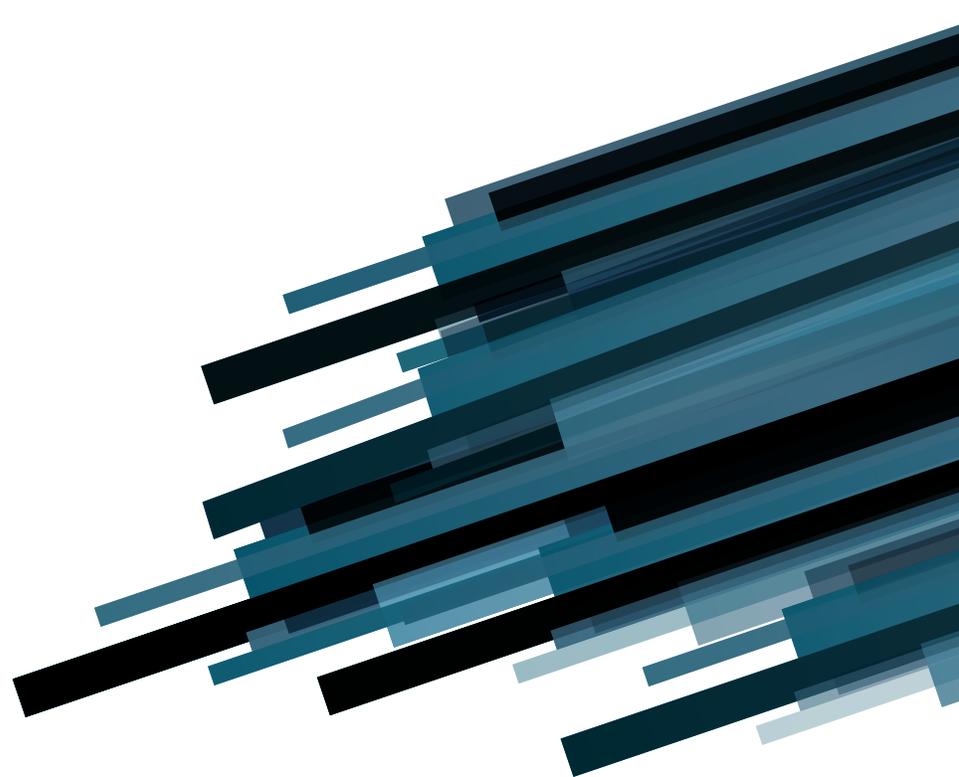
is the proposed size of the new TRCA headquarters to be constructed at 5 Shoreham Drive. DTAH was hired for schematic design and construction cost estimate.

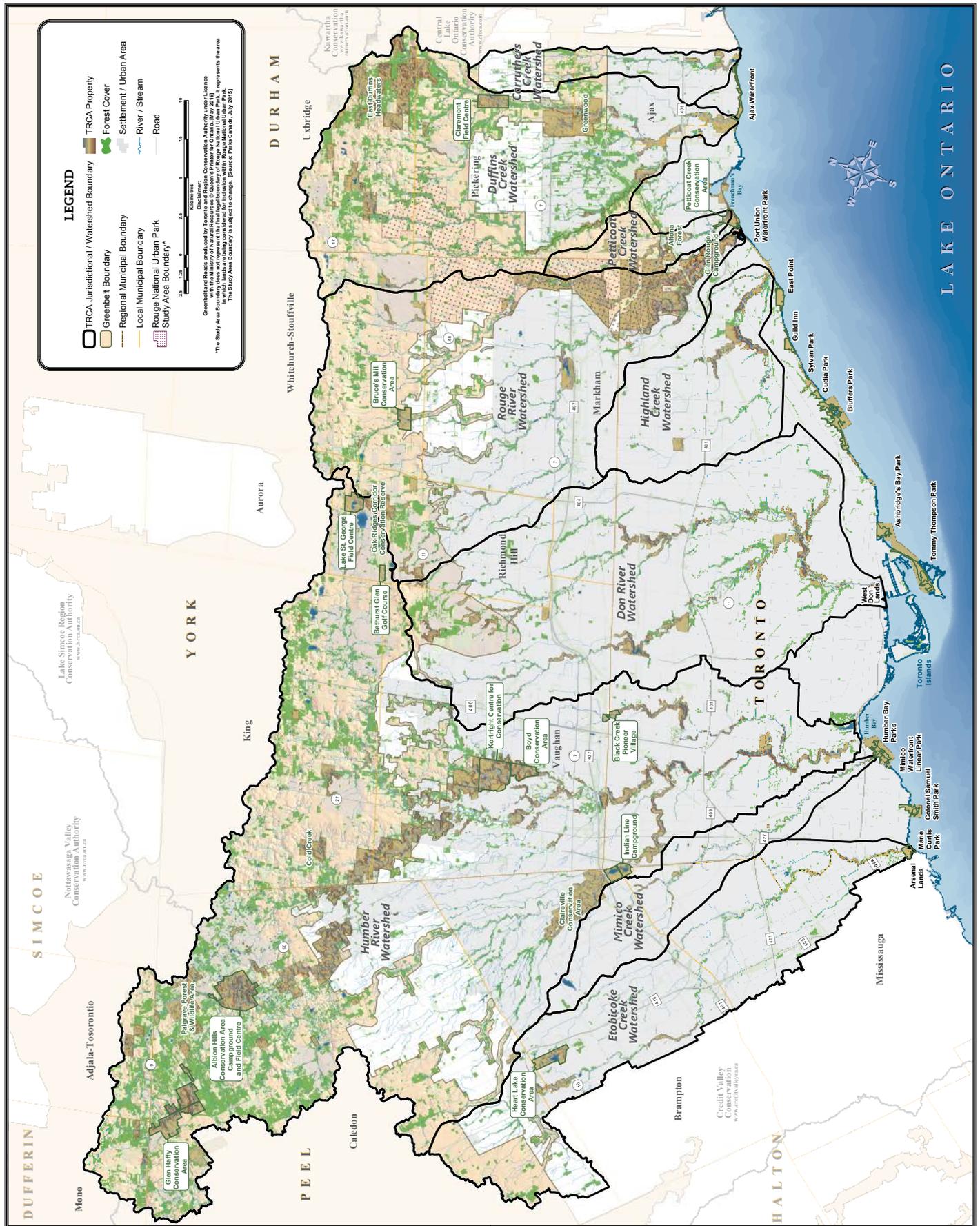
120

TRCA employees are taking part in the newly created Cross Divisional Staff Collaboration.

780

individual GIS request tickets submitted by staff from across the TRCA.





Toronto and Region Conservation Authority Member Municipalities and Members 2015

TOWN OF MONO & TOWNSHIP OF ADJALA-TOSORONTIO

G. Mason

THE REGIONAL MUNICIPALITY OF YORK

D. Barrow *
 M. Di Biase (Vice Chair) *
 J. Heath *
 L. Pabst
 G. Rosati

*Executive Committee Members
 (partial or full year)

THE REGIONAL MUNICIPALITY OF DURHAM

K. Ashe (Nov. - Dec.)
 J. Ballinger
 C. Jordan *
 J. O'Connell (Jan. - Nov.) *
 G. L. O'Connor (Chair) (Jan.) *

THE REGIONAL MUNICIPALITY OF PEEL

C. Fonseca *
 J. Innis *
 M. Mahoney
 J. Sprovieri
 J. Tovey *

CITY OF TORONTO

P. Ainslie
 M. Augimeri (Chair) *
 B. Cachola (Jan. - July) *
 R. Chopowick (Jan. - July) *
 V. Crisanti *
 G. De Baeremaeker *
 J. Di Ciano
 J. Drake (July - Dec.)
 R. Ford

R. Hoinkes (July - Dec.)
 M. Kelleher (July - Dec.)
 M. Khan (Jan. - July)
 G. Mammoliti *
 M. Mattos *
 J. McKelvie (July - Dec.)
 R. Moeser *
 A. Perruzza
 C. Thorburn (Jan. - July)

EXECUTIVE COMMITTEE

CHIEF EXECUTIVE OFFICER/SECRETARY TREASURER

B. Denney

DIRECTOR, WATERSHED MANAGEMENT
 A. Freeman**

WATERSHED STRATEGIES
 C. Sharma **

PLANNING, GREENSPACE AND COMMUNICATIONS
 (formerly Planning and Development)
 C. Woodland

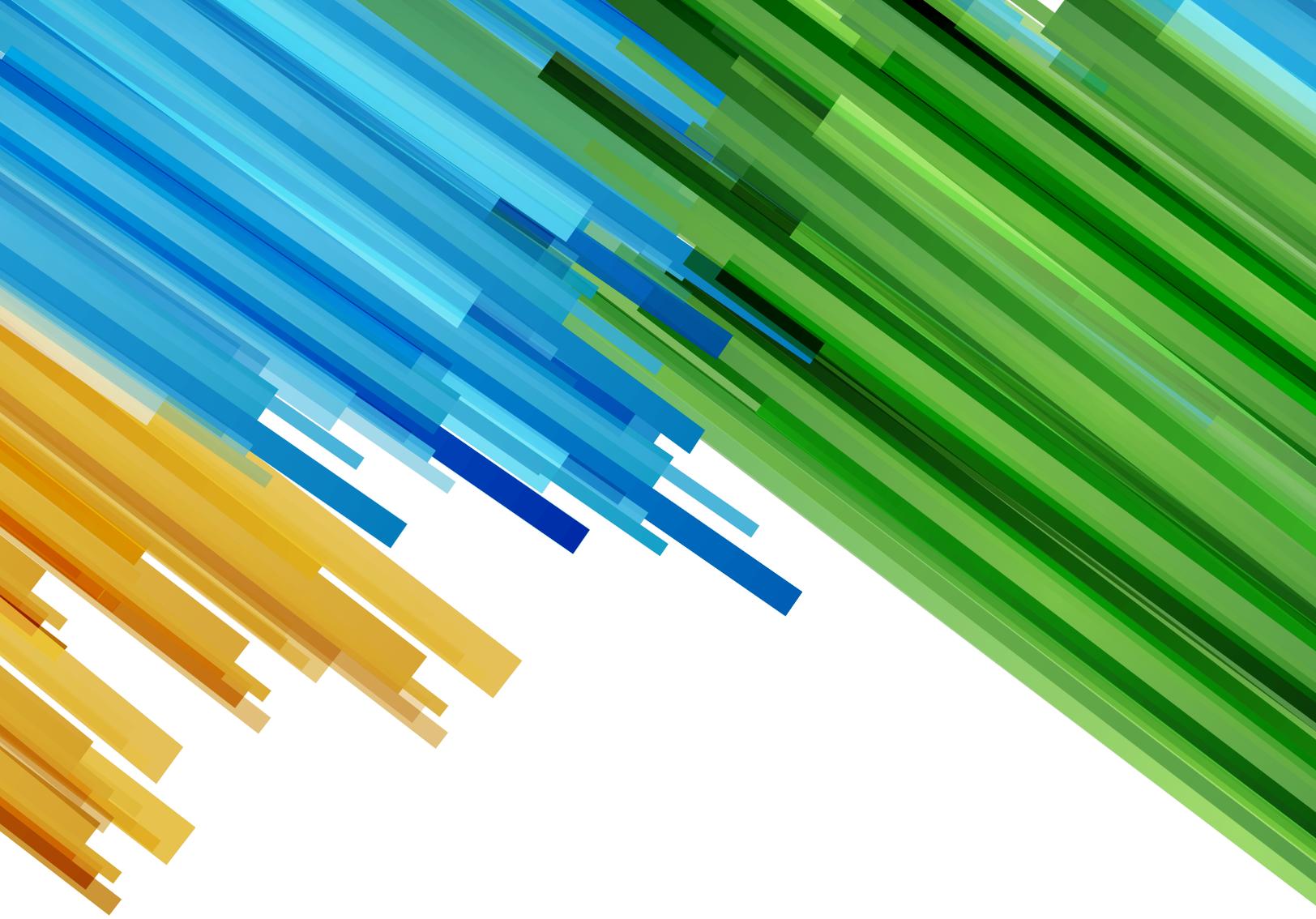
RESTORATION AND INFRASTRUCTURE
 (formerly Restoration Services)
 N. Saccone

PARKS AND CULTURE
 D. Edwards

FINANCIAL OFFICER
 R. Sgambelluri

EDUCATION, TRAINING AND OUTREACH
 D. Gray **

**Partial Year



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