

Each year when I deliver this report, I reflect on the changes taking place at the Office of the Surveyor General (OSG) and the staff making them happen. Many of the most obvious changes in recent years have included the adoption of digital processes. Remote work during the pandemic necessitated the implementation of new technologies and accelerated modernization already under way in our office – and those efforts have continued.

Land surveying has had a long tradition of embracing new technologies. While the profession's basic principles date back to ancient Egypt and Greece, surveyors have always been early adopters of advances in process and equipment. Innovations in measurement took us from the optical transit to the electronic total station, to Global Navigation Satellite System receivers, and onto Light Detection and Ranging (LiDAR) and terrestrial scanning applications. Surveyors in the field now use Remote Piloted Aerial Systems, also known as drones, to capture vast amounts of data that would have once required scheduling an aerial mapping flight plan and specialized crew.

The talented staff within OSG continue to successfully meet the challenges inherent in the application and integration of these new technologies with our longstanding practices. And, with an emphasis on service delivery excellence to all clients, we are always looking for efficiencies in our processes.

OSG has moved, too. Not physically, but rather from the Corporate Management and Information Division to the Divisional Support Branch within Regional Operations Division of the Ministry of Natural Resources. In many ways an operational division is a natural fit; we are already closely aligned with lands and business services within the new division, working hand in hand with Crown Land Registry and lands specialists within MNR District offices across the province.

OSG staff have been instrumental in making that move as seamless and challenge-free as possible. Special mention must be made of Jen McMurray, Parcel Mapping and Georeferencing, and Prakhar Shrivastava, Crown Land Surveys, in leading their respective units, and taking on the additional workload that came with the move. And Melissa Jolley, OSG's tireless administrative assistant, has ensured that all the financial, asset, HR and unit reporting has been submitted in a timely manner.

Working more closely with our branch colleagues is but one example of the many ways OSG collaborates across division and ministerial boundaries. You will notice a focus on collaboration within the pages of this year's report. Collaboration allows OSG to achieve operational efficiencies, producing mutually beneficial results in the public sector. It also enhances communication within an organization with a reach and mandate as broad as the Ontario Public Service.

I invite you to read this year's report to learn more about the work we do, our incredible staff and how the Office of the Surveyor General is making a positive impact.

Preserving and sharing historical records

Collaborating with Archives of Ontario

In 2024, OSG worked closely with the Archives of Ontario to preserve the most fragile items from our collection of original Crown land survey records. These plans, many dating back to the early- and mid-1800s, needed to be professionally repaired and preserved by a conservator. The plans were inspected, inventoried and sent to expert Archives staff. Due to their physical condition, these plans have been inaccessible for many years. They will now be restored and digitized. Digital copies will then be made available through OSG's records staff by request.

Improving access to important records

Each year OSG receives more than 1,000 requests for records from survey firms, archaeologists, researchers and members of the public. We are exploring ways to make these resources available online to help people access the information they need. Since 2022, OSG has digitized more than 174,000 records, which include plans, field notes, and instructions. Work is now underway to expand access to these digital records. Staff are compiling data on key elements of the Crown land surveys collection to publish on the [Ontario Data Catalogue](#), Ontario's one-stop shop for government data. Once published, the public will have a better understanding of the breadth of OSG's records collection and have direct access to the information they need.

Sharing our historical collection

Over the past year, we have provided tours of our physical collection stored in the OSG vault. The vault is specially designed to preserve historical documents, such as our Crown land survey plans and field notebooks. The Deputy Minister of Natural Resources and MNR staff, as well as representatives from the Ministry of Indigenous Affairs and First Nations Economic Reconciliation are among those who visited in 2024. One of the most impactful tours was given to a group of Grade 9 students who learned about surveying by participating in a hands-on activity that involved using a 200-year-old surveyor's chain and examining some of our records. Employees of the Kawartha Pine Ridge District School Board were also given a tour as part of a potential collaboration with ESRI to promote learning about geographic information systems starting as early as kindergarten. All our tours are given with the hope that participants gain a greater appreciation of the importance of our records — and say, at least once, "wow, I didn't know that!"

Expanding protected areas

Expanding Protected Areas Project - Supporting Ministry of Environment, Conservation and Parks

In December 2023, Ontario entered a three-year, nearly \$10-million agreement with Environment and Climate Change Canada to expand Ontario's protected areas system. This initiative aims to accelerate the expansion of protected areas by focusing on sites that are already in advanced stages of planning. These include sites identified for protection in past planning exercises, such as Ontario's Living Legacy (OLL) Land Use Strategy.

Supporting the Ministry of Environment, Conservation and Parks (MECP), Ontario's lead for the Expanding Protected Areas Project (EPAP), and the accelerated regulation timelines has been a top priority for many OSG staff this year. OSG has not supported the regulation of so many protected areas at one time since the early 2000s when OLL was implemented.

OSG is the primary source of regulation plans and descriptions for protected areas proposed for regulation. Regulation plans and descriptions are the key products provided by OSG necessary for the regulation of protected areas in Ontario. These plans provide a visual, map-based description of the land, making protected area boundaries easier to understand compared to the traditional metes and bounds descriptions. This approach is now the preferred method for legally defining regulated areas under the Provincial Parks and Conservation Reserves Act, 2006.

OSG's proactive and responsive support for EPAP has enabled MECP to increase their capacity and handle a higher volume of boundary amendment projects.

Here are some stats for infographics – numbers pending closer to report publication

Regulation plans completed and awaiting regulation under Expanding Protected Areas Project: 19

hectares awaiting regulation to date: approximately 7,006 ha

Regulation plans in progress: 14

hectares in progress to date: approximately 8,519 ha

Crown Land Surveys Unit

The Crown Land Surveys Unit (CLS) provides professional cadastral advice to its clients and stakeholders, including MNR, other provincial and federal ministries, land surveyors, lawyers, researchers and the public.

CLS is responsible for:

- reviewing and approving the plans of survey for the disposition of Crown land
- preparing legal descriptions used in patent documents
- supporting the regulation mapping process
- supporting the procurement of surveys on Crown land
- supporting the land claims process
- providing input into applications for Land Titles Absolute

This year we improved efficiency by accepting digital submissions for plan reviews and refining the plan review process. We have seen wider adoption of e-plans and the number of e-plan submissions continues to grow. 2023 brought an increased intake of new plan submissions that that we worked through in the first part of 2024. Requests for mining survey instructions and applications for Land Titles Absolute also increased in the last year. Staff continue to build awareness of the role of OSG across various ministries and participate in training and development initiatives within the MNR.

This work is supported by Crown Survey Technologists Mike Bar, Rachel Dyson, Alex Gawlina, Thomas Guilbeault and Jacob Parnell; Crown Surveyors Peter Dunsworth, Hassan Ibrahim and Roger Grose; Senior Crown Surveyors Dave Kovacs, Michael Matthews and Prakhar Shrivastava; and Record and Information Management Officers Lisa Casselman and Jenn Watt.

Infographic:

2024 in numbers (Year to Date: November 30)

214	New Crown land plan submissions received	17% decrease from 2023
205	Completed 1 st examination	19% increase from 2023
205	Issued approval to deposit	15% increase from 2023
262	Legal description issued for new dispositions or renewals	30% increase from 2023
110	Files currently in queue to be examined	Files date back to June 2024
154	Offered independent survey opinion and advice	5% increase
14	Active negotiation files requiring support	

Parcel Mapping and Georeferencing Unit

The Parcel Mapping and Georeferencing Unit is responsible for maintaining multiple layers of data including provincial boundaries, geographic townships and lots.

Parcel Mapping and Land Tenure Data

OSG's Crown Parcel Specialists Donna Gertridge and Audrey Parr work with Teranet and the Municipal Property Assessment Corporation (MPAC) to ensure Ontario Parcel data products are maintained. They are responsible for maintaining multiple layers of data including provincial boundaries, geographic townships and lots and land tenure layers.

In 2024 this small but mighty team made the following changes to Ontario Parcel data:

- edited over 14,000 land tenure features
- sent over 650 requests for Ontario Parcel maintenance to MPAC, resulting in over 2,600 units of change to Crown parcel features

Data management plans are complete for 7 tenure data sets. This work will support future projects to modernize how we manage tabular and spatial databases for digital historical plans and documents.

Regulation Plans and Descriptive Mapping

OSG's mapping team creates detailed descriptive maps and regulation plans to support government priorities. This work compiles important geographic, spatial and title information for parks, conservation reserves, land claims and Treaty Land Entitlements.

The team works closely with ministries of Municipal Affairs and Housing; Mines; Environment, Conservation and Parks; Agriculture, Food and Rural Affairs; and Ministry of Indigenous Affairs and First Nations Economic Reconciliation to ensure the mapping products are successful tools for collaboration.

In addition to this work, Land and Resource Data Support Officers Steven Groulx, Nicholas Kaluzny, Mike Vanderdoelen and Cameron Mackisoc continue to modernize workflows and templates to improve service delivery, particularly for the Expanding Protected Areas Project in 2024.

Geodetic Services

A major focus of the Geodetic Services Program in 2024 was to revise and publish the Government of Ontario Information Technology Standards (GO-ITS) related to geospatial referencing (GO-IT) Standards.

The following (revised) standards were officially published on January 30, 2024:

- [GO-IT Standard 541TES](#) describes the official horizontal datum for Ontario which is NAD83 Canadian Spatial Reference System (NAD83-CSRS). NAD83 Original (NAD83-ORIG) will be phased out over a 5-year period
- [GO-IT Standard 542TES](#) describes the official tools to be used for transforming geospatial datums in Ontario
- [GO-IT Standard 543TES](#) identifies the Ontario GNSS/GPS Specification for Geodetic Control Surveys (2023) that replaces the older 2-D specification. This modern, 3-D specification explains how to expand Ontario's reference networks using the modern GNSS technology

In addition, a new GO-IT Standard was published in 2024:

- [GO-IT Standard 544TES](#) describes the first official vertical datum for Ontario as the Canadian Geodetic Vertical Datum 2013 (CGVD2013), which replaces the *de facto* vertical datum, the Canadian Geodetic Vertical Datum 1928 (CGVD28)

Another major focus of the Geodetic Services Program was to complete extensive testing of least-squares adjustment software to support the re-adjustment of the Ontario High-Precision Network (OHPN) based on the NAD83-CSRS horizontal datum. This testing compared results of three software programs: GeoLab™, GHOST (developed by Natural Resources Canada), and DynAdjust (developed by the Intergovernmental Committee on Surveying and Mapping). Testing involved comparing more than 11,000 OHPN stations across Ontario.

The Geodetic Services Program currently has three staff members: Provincial Geodesist Morgan Goadsby, Geodetic Control Survey Specialist Rob Hamer and Geodetic Control Survey Analyst Walyeldeem Godah.

Ontario Geographic Names Board

OSG's geographic names team supports the Ontario Geographic Names Board (OGNB), which manages and defines over 220,000 geographical names of places and geographic features in Ontario.

In 2024, the OGNB considered over 20 name cases at 3 meetings. We conducted three public online surveys to gain insights into 13 proposed names. We also directly consulted with Indigenous communities, municipalities and local organizations to obtain input on these name proposals. This important feedback captures the thoughts and opinions of people who have a close personal connection to the geographic features. We reviewed all feedback, which is critical to the naming recommendations the board makes to the Minister of Natural Resources.

Work continued this year to digitize records in the geographic names archive as part of a \$250,000 project to modernize and improve government services. The remaining hard-copy records, including minister's decisions, OGNB policies, correspondence and municipal maps were scanned to preserve the records and improve accessibility. A third of the records were reorganized and indexed prior to scanning. In total, over 250,000 images were scanned and 97% of the files were scanned with Optical Character Recognition (OCR) allowing for more efficient searching of name information.

The geographic names team includes OGNB Secretary Morgan Goadsby, Provincial Geographic Names Specialist Elizabeth Miller and Indigenous Relations Intern Christopher Tam.

- maintained the database of 60,000 official geographic names for official mapping and continued work to fully define the spatial extents for river features.
- provided 40 names for the Ontario portion of a national interactive map on changing place names

OSG was fortunate to have four summer students supporting our work in 2024. Prospective summer students apply each year for these job postings through the Summer Employment Opportunities [program](#).