

Building a cadastral fabric in Newfoundland and Labrador

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ESRI Canada worked with Newfoundland and Labrador-based Information Brokerage Limited (IBL) to build a cadastral fabric of the province by integrating individual land surveys into a single source database.

The most easterly region in North America, the Canadian province of Newfoundland was first discovered by Norse explorers around 1000AD. The first European settlers were attracted to the region by the vast quantities of fish and this early focus on fisheries in small coves and inlets has caused unique settlement patterns in the province's 250,000 miles² of rugged landscape. To manage the land ownership in these rural communities, the province's land was distributed in two ways. Either it was granted to individuals by the Crown, or, after a family had lived on

The registration of conveyances (i.e., transfer of title to property from one person to another) is not required by law in Newfoundland and Labrador and the Province has limited cadastral fabric (i.e., boundaries, property lines). Without the availability of this informa-

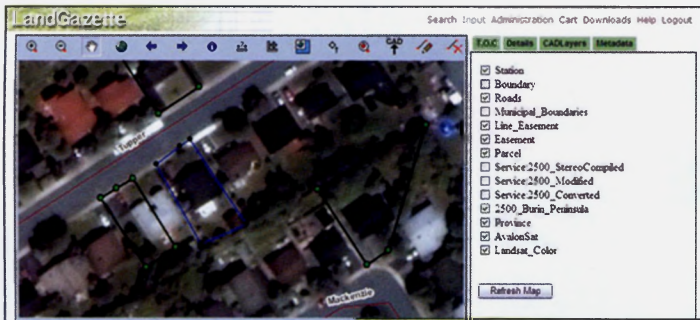
The significant decrease in time and effort spent (i.e., in some cases up to several hours of research time) trying to access this data is passed to the customers through cost efficiencies, potentially leading to \$400 - 500 savings in some survey transactions.

tion, the retrieval of accurate property data is a challenge for surveyors, real estate agents, assessors, and lawyers. In some

cases searching the Registry of Deeds does not reveal any evidence as to the ownership or extent of title. In 2005, Ian Edwards, a private surveyor and founder of IBL, had the idea for the LandGazette. The purpose of the LandGazette is to allow land surveyors to submit their surveys to a clearinghouse and for the data to be accessed by a wide range of users. Working with ESRI Canada consultants, IBL utilized ArcGIS Server and ArcSDE as the foundation technologies for the LandGazette program. The developers of the system used ArcObjects in a .NET environment for the construction of a comprehensive geodatabase which became the heart of the web-based application. Surveyors can easily upload their survey files to the database of existing survey fabric. Land surveys submitted to the LandGazette are overlaid on existing satellite imagery and maps of the province provided by the federal and provincial governments. Over time, the integrated land surveys will cover the entire province.

The LandGazette is the officially sanctioned land database of the Association of Newfoundland Land Surveyors and the program provides incentives to surveyors to input their work into the system through a customized Internet browser. The surveyors, whose livelihoods depend on the rights to their surveys, retain ownership of their submissions. With their work now easily available for downloading, the surveyors receive a percentage of the fees charged to the user whenever survey or legal data is retrieved.

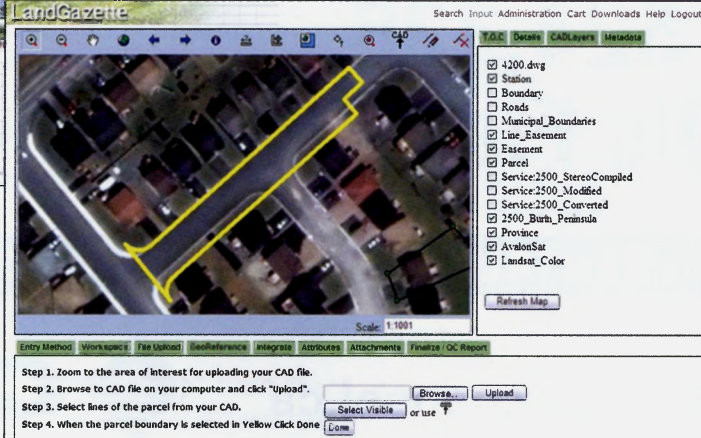
"The LandGazette will raise the level of care and due-diligence in certifying title," says Mr. Edwards. "Over time, the information that surveyors add to the database will lead to a system where all land in



Code	From	Bearing	Distance	Radius	Arc
0					
1	1.550000	10.000			
2	1.591603	4.431			
3	2.305748	34.985			
4	3.692642	17.088			
5	4.263355	31.305			

LandGazette data entry can be achieved by entering information from existing surveys directly into the traverse table, with the coordinate geometry input method.

the land for generations, they would acquire title to the land through "Squatters Rights".



LandGazette data entry can also be achieved by uploading the associated CAD file and then selecting the lines that define the survey.

LandGazette

Welcome to Landgazette (New Server)

Your official source of real property information for the Province of Newfoundland & Labrador. Provided by the members of the Association of Newfoundland & Labrador Land Surveyors.

LANDGAZETTE MISSION STATEMENT LandGazette is committed to providing real time, web enabled, processes for the collection, presentation and distribution of real property information for the Province of Newfoundland and Labrador.

LandGazette represents the only spatially-enabled, comprehensive, collection of real property information for the Province and is continuously maintained by participating members of the Association of Newfoundland Land Surveyors, as per By-Law 18, as written under the legislative authority of the Land Surveyors Act (1991).

This unique approach to real property management positions Newfoundland and Labrador as a global leader in the development of the next generation of land information systems.

Username:
 Password:
 I agree to the [Terms and Conditions](#). [Log In](#)
[Forgot Password?](#) [Log in as a Guest](#) [Register](#)

Focused On Real Property Mapping

infoTOWN
 Enterprise Edition - A Web Enabled GIS Municipal Information Management System

Functionality: water / sewer system analysis
 development application tracking
 preventative maintenance scheduling

LandGazette is open to the public to search but qualified professionals such as members of the Association of Newfoundland Land Surveyors can enter data by securely logging in.

Newfoundland and Labrador is accounted for, clearly defined, and easy to locate on a map.”

With the support and assistance of the Association of Newfoundland Land Surveyors, The LandGazette was launched in July, 2006. By January, 2007 there were close to 3,800 surveys submitted and IBL is on target to meet their annual submission goal of 8,000 submissions per year. IBL would like to reach a critical mass of survey submissions by 2012.

As survey submissions increase, the jobs of many profes-

sionals will be positively affected by the LandGazette. Lawyers and surveyors’ jobs will become vastly easier by having access to a centralized repository of cadastral information. The significant decrease in time and effort spent (i.e., in some cases up to several hours of research time) trying to access this data is passed to the customers through cost efficiencies, potentially leading to \$400 - 500 savings in some survey transactions. More importantly, by ensuring that all land is accounted for and easy to find, future land information updates have an assurance of higher quality. Surveyors and lawyers can be confident that they are not creating errors or confusion in title history due to incomplete information.

LandGazette

Search Input Administration Cart Downloads Help Logout

T.O.C. Details CADLayers Metadata

- Station
- Boundary
- Roads
- Municipal_Boundaries
- Line_Easement
- Easement
- Parcel
- Service_2500_Stereo-Compiled
- Service_2500_Modified
- Service_2500_Converted
- 2500_Burin_Peninsula
- Province
- AvalonSat
- Landsat_Color

[Refresh Map](#)

Scale: 1:15988266

Entry Method

Please Choose Entry Method

I agree to the [surveyor agreement](#)

- CAD Upload
- Coordinate Geometry
- ASCII Traverse Line
- ASCII Point File

LandGazette allows entry of survey data through several ways such as CAD upload, Coordinate Geometry, ASCII Traverse Line, and ASCII Point File.

Field	Value
PID	GKCRM1
REG REF	106510
JOB NUMBER	701
PHYSICAL ADDRESS	MacNaughton Drive, St. John's, Newfoundland & Labrador
CONDO LEVEL	
SURVEYED BY	Winston Harris
INPUT BY	IBL
CREATED BY	IBL
SURVEY DATE	1/3/1997
SURVEY TYPE	G
PLAN NAME	Property Survey (Civic No. 19)
CLIENT FIRST NAME	MacNaughton Drive
CLIENT LAST NAME	Condominium Corp.
CLIENT FIRST NAME2	
CLIENT LAST NAME2	
CLIENT NAME	MacNaughton Drive Condominium Corp.

A successful search in LandGazette allows users to zoom to the parcel, view its details and potentially purchase any attachments.

Several other professionals are benefiting from the LandGazette too. Real estate agents can show prospective clients a property's proximity to schools and other amenities, which helps their clients make informed decisions about purchasing a home or business. Municipal Assessors can increase revenues for the city by determining if they are

missing parcels in their tax rolls. To date, in some areas, 20 - 25% of properties have still not yet been assessed, leading to lost revenues. With the LandGazette assessments will be completed over time and this revenue will be recovered.

Future plans

Currently, attention is being focused on increasing functionality to permit the integration of a provincial Crown title layer and to enable a time variant geodatabase, which will enable LandGazette users to view cadastral fabric at different epochs of time. Also, IBL is working on a web-based regional asset management system which will utilize customized routines to enable municipalities to edit and display their respective assets. This will bring the power of the most advanced tools in GIS to small to medium sized municipalities that would not ordinarily have the resources or expertise to acquire them.



For more information:

Ian Edwards, President

Information Brokerage Limited

www.ibltd.net 709-279-1990