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LIO Spatial News

Land Infrastructure Gets SuperBuild Funds

The Ministry of Natural Resources' GeoSmart program recently confirmed that it has received the "go-ahead" from Ontario's SuperBuild Corporation to invest $3.75 million in four new projects designed to further build and refine Ontario's Land Information Infrastructure (OLII).

To be implemented over the next year and a half by Land Information Ontario, these projects include:

The Ontario GeoSpatial Data Integration and Management Initiative.

Designed to expand the amount of information held in the Ontario Land Information Warehouse, this project will also fund hardware and software enhancements to improve the operation and responsiveness of this important web-based facility.

The Ontario Geospatial Data Exchange Management Initiative.

This project is focused on expanding the membership of the Ontario Geospatial Data Exchange (OGDE), Ontario's first organization wholly devoted to the mutual sharing of public-sector geodata. As membership in OGDE expands, so too will entries in the Ontario Land Information Directory. A development which will undoubtedly produce a better and broader, awareness of the huge collection of geodata which has already been assembled by Ontario's broader-public sector.

The Ontario Parcel Data Maintenance Initiative.

The Ontario Parcel Alliance is a groundbreaking partnership between the Government of Ontario, the Municipal Property Assessment Corporation and Teranet Inc.

Over the next two-and-a-half years the Alliance will assemble a standardized, digital parcel mapping database for the entire province, and once complete, provide for its ongoing maintenance.

This initiative will fund the Province's share of operating the Alliance during its first year.

The Ontario Road Network Administration Initiative.

This project will help establish the administrative structure and rules needed to bring all levels of government together in a cooperative effort to create and subsequently maintain the Ontario Road Network (ORN) . A comprehensive database , the ORN will contain detailed information about every public roadway in the province.

The Big Picture

An enthusiastic supporter of OLII right from its inception, GeoSmart has previously committed $8.25 M to help produce important province-

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wide data sets that will provide reliable land-information for use in a broad range of community geographic information applications.

"Ongoing investment in the OLII makes good business sense", explains GeoSmart's Manager, Derek Landry. "It will produce significant province-wide economic and environmental benefits and will stimulate new business opportunities and jobs in the geomatics sector".

In addition to securing access to new province-wide geographic base-data, GeoSmart's growing number of community-led projects will also reap benefits from the improved data-sharing capability these four projects will produce.

As Manager of Geographic Information Infrastructure with Ontario's Land and Resources Cluster of Ministries, Brian Maloney sees this investment opening up some exciting new opportunities.

"These projects will definitely hasten the creation of the innovative partnerships, policies and high quality land information this province needs ", he explained.

Time and again studies and real-life experience, have shown that access to advanced geographic information is an essential ingredient in the effective day-to-day operations of governments, businesses and communities.

Ontario's decision to expand its investment in the Ontario Land Information Infrastructure signals that it too has confidence that leading-edge land information technologies can pay big dividends. Land Information Ontario and GeoSmart are looking forward to helping Ontario's people unlock that potential.

NEWS FLASH

As we were going to e-press the Ontario Government, the Municipal Property Assessment Corporation and Teranet Enterprises Inc. announced they have formed an alliance to build a standardized, digital parcel mapping database for the province – a move that will cut costs, improve business efficiency and strengthen business planning.

We will provide subscribers with additional information in coming weeks.

Ontario PARCEL

ERMES - Ontario's On-Line Geoscience Library

By Dario Romani & Natalie Dumont

Few organizations are more linked to geospatial information than the Ministry of Northern Development and Mines (MNDM), Mines and Minerals Division. The Division has a long history in the use of geospatial technologies, having adopted them in the late 1980s as an efficient way of fulfilling its mandate, which includes provision of geological information and administration of Ontario's mining lands. The end-result of that involvement is ERMES, the Earth Resources and Minerals Exploration webSite.

In the early 1990's, the Mines and Minerals Division undertook several large-scale digitizing projects which involved scanning a wide range of paper documents such as mineral exploration assessment reports, scientific publications and geological maps produced by the Ontario Geological Survey. These documents were placed in a common repository and digitally linked to both ground locations and to index data, making them searchable geographically and by keyword.

Additional data sets were added to the repository in the early and mid-1990s, including, mineral exploration drill hole data, rock sample chemical analysis information and the contents of the Ontario Mineral Deposits Inventory database.

Together, these data represent an immense volume of information: 250,000 records, 2 million scanned pages and maps, and 1 million chemical analysis results, all occupying over 210 gigabytes of storage!

The challenge then was to both manage all this data and make it accessible to MNDM's clients and stakeholders.

The Mines and Minerals Division's answer in the early 1990s was ERLIS, the Earth Resources and Land Information System. While the ERLIS system significantly improved access to the Mines and Minerals Division's vast library of geoscience data, the technology of the day required clients to come to

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the source, as ERLIS operated only on workstations located in Toronto, Sudbury, Timmins, and Thunder Bay.

When use of the Internet began to become mainstream, Mines and Minerals began looking for ways to use web technology to deliver its vast body of geoscience information directly to client's desktops.

The solution seemed relatively simple, ERLIS could be converted to a web-based application, and be renamed the Earth Minerals and Exploration webSite (ERMES).

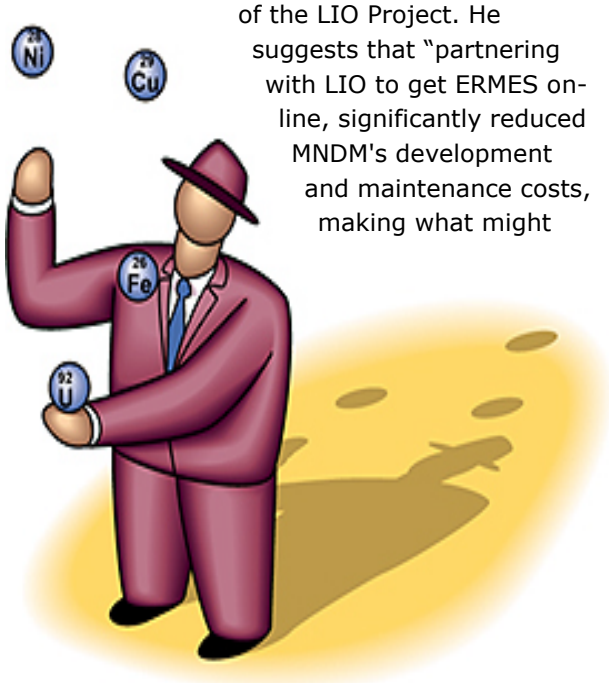
But there was one major hurdle. To operate, ERMES needed access to a repository which was not only capable of warehousing its massive volume of geoscience data, but also able to provide web-based geographic and keyword search capabilities. Building and operating such a facility to house ERMES alone would be financially prohibitive.

The answer came in the form of a partnership with the Ministry of Natural Resources', Land Information Ontario (LIO) project to use the Ontario Land Information Warehouse (OLIW). Designed to serve as a common repository and distribution hub for all of Ontario's geospatial data, the Warehouse was the perfect tool to effectively and affordably deliver ERMES data.

This inter-ministerial partnership, the first of what is expected to be many, soon resulted in the addition of geoscience data to the Warehouse, data which can now be easily searched and viewed with the LIO map browser through a customized "ERMES View".

The MNDM-MNR collaboration on this project effectively demonstrates the benefits to be derived from cross-ministry partnerships. "LIO and ERMES were seen as a natural partnership right from the beginning", says former Senior Manager of Data Services, Gianfranco Merlino.

Raphael Sussman is Manager of the LIO Project. He suggests that "partnering with LIO to get ERMES on-line, significantly reduced MNDM's development and maintenance costs, making what might have otherwise been a financially prohibitive project affordable". LIO has also benefited greatly from the experience" says Mr. Sussman "working with MNDM to get ERMES going has helped us focus on what is relevant to our user community".



Using the Warehouse's ERMES View, users can overlay geoscience data against a map of Ontario to find all geoscience information associated with a particular tract of land. They can also do keyword searches on a geoscience database index. While the ability to do these searches over the Internet in itself provides a huge benefit to users, perhaps the most significant feature of the ERMES system is that it lets users view geological reports and maps directly on-line. This brings an entire geoscience library to the user's desktop, 24 hours a day, 7 days a week.

Today's mineral industry is global in nature - investment decisions affecting Ontario are made in places such as Zurich and Sydney, as well as in Toronto, and one of the major factors in making these decisions is access to information.

"Round-the-clock access to high-quality geoscience information is one of the reasons why Ontario is one of the best places in the world for new mineral exploration investment," says Dr. John Gammon, ADM of the Mines and Minerals Division. "The LIO/ERMES partnership has shown the world that Ontario can use cutting-edge technologies to provide exciting new mineral exploration opportunities."

For more information on ERMES - contact Phil Hum at (705) 670-5864, or check out the web site at: www.ermes.mndm.gov.on.ca.

Dario Romani is MNDM's Geoscience Super Library project analyst.

Natalie Dumont is editor of @MNDM.

New Tool Enhances Province's One Window Planning Process

By Matthew Ferguson

Land Information Ontario and the Ministry of Municipal Affairs and Housing continue to streamline the land-use planning process in Ontario with the creation of the "One Window Screening Tool."

For some years the Ministry of Municipal Affairs and Housing (MMAH) has used its "municipal plan review service" and its "one window provincial planning service" to help municipalities evaluate development proposals which require major policy changes, such as official plan amendments and new plans of subdivision.

While both of these approaches streamline and co-ordinate the collection of information from other provincial ministries, the "one window" service specifically empowers MMAH to review, provide input and (in some cases) make decisions on, land use planning applications in the interest of protecting provincial interests.

Traditionally, MMAH depended on paper-based systems to shepherd proposals through the one window process and track responses. This coupled with the complex nature of land development and the diverse range of identified provincial interests meant that processing applications often took considerable time.

Recognizing that there had to be a better way the Ministry recently teamed-up with the folks at the Land Information Ontario (LIO) project to find a digital solution; the result was the One Window Screening Tool.

Built by LIO to meet the Ministry's requirements, the Tool allows MMAH planners to use the Internet to verify whether a proposed development raises any issues of provincial interest.

Let's have a look at how the process works.

A planner would initially use the Tool to define the geographic location of a specific development proposal. The Tool would then use the Internet to check if any of the data held in the Ontario Land Information Warehouse (OLIW) indicates a conflict between the proposal and the Provincial Policy Statement (PPS).

This is important because the PPS protects the land-use interests of provincial ministries and provides policy direction on matters of provincial concern.

For example, the Tool would determine whether a proposed development complies with the prescribed setbacks (distance requirements) from certain features or land uses, such as provincial highways, sources of drinking water, areas of scientific or natural interest, or abandoned mines.

If the Tool determines that the development is of provincial interest, it generates a report to highlight the affected PPS policies. This report guides provincial staff in their evaluation by focusing their attention on the critical policy issues.

The Tool is not a replacement for skilled provincial staff. It is still necessary for MMAH planners to look at other Ministries' comments, and use their professional knowledge and expertise to interpret the issues raised in the screening report.

The Tool is, however, an invaluable asset in helping to reinforce Provincial planning policies. Policies which protect the long-term health and safety of Ontario's people, as well as ensure the financial and economic well-being of the Province and its municipalities.

The One Window Screening Tool is currently in use at MMAH's municipal services offices in-Toronto, Kingston, Sudbury, London and Thunder Bay. Roll-out to municipalities and other

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agencies is expected to commence later this year.

Matthew Ferguson is a planner with the Information, Integration and Analysis Branch of the Ministry of Municipal Affairs and Housing.

LIO, MNR and Partners Bag Awards!

TORONTO - Staff from Land Information Ontario (LIO), a branch of MNR's Science and Information Resources Division, were a part of three different inter-ministerial teams that recently won awards at *Ontario Showcase 2001*.

An "organizational transformation" award was received by The Ministry of Municipal Affairs and Housing (MMAH) for its One-Window Screening Tool. Profiled elsewhere in this issue, this Internet-based tool, built by LIO personnel to Ministry of Municipal Affairs and Housing (MMAH) specifications, allows MMAH planning analysts to use the Ontario land Information Warehouse map browser to quickly and comprehensively review land development proposals.

The Ministry of Northern Development and Mines (MNDM) also found itself the recipient of an award in the "delivering IT as an enabler" category. The award was presented in recognition of MNDM's ClaiMaps II application.

This cutting-edge application uses data from the Ontario Land Information Warehouse to provide local and worldwide clients with round-the-clock access to mining claim maps and information.

Last but not least, the Ministry of Environment (MOE) also walked away from Showcase with a "public/private partnerships" award for development of its *environet* application.

environet will bring all of the Ministry's information together on one web site. MOE shared staffing and technical resources with LIO to ensure that the new application works with other Ontario Land Information Infrastructure applications.

In other news …

The Ministry of Natural Resources was recently presented with ESRI Canada's first Lifetime Achievement Award. The award recognized the Ministry's leadership role and innovative use of Geographic Information System (GIS) software.

The presentation was made September 18, 2001 during the annual meeting of Wildlife, Fisheries and Forest Ministers of Canada. Minister John Snobelen and Deputy Minister John Burke accepted the award on behalf of the Ministry.

A notable achievement of MNR in GIS was the development of the Land Information Ontario (LIO) program. "The LIO program will move the government, the key data providers, business sectors, and Ontario's strong geomatics industry into leadership roles in managing geospatial information and developing decision support tools," said Minister Snobelen.

"To say that MNR is a world leader in GIS is an understatement," said ESRI President Jack Dangermond. "This lifetime Achievement Award is going to a very deserving organization that has been making tremendous contributions to GIS throughout Canada for over 20 years. It is our pleasure to recognize them for their remarkable achievements and their commitment to using GIS for a wide range of activities."

Finally….

LIO's very own Raphael Sussman was recently recognized by the Federal GeoConnections Secretariat for helping review technical aspects of a project which successfully linked inventory data relating to oil & gas industry operations on frontier lands to the Canadian Geospatial Data Infrastructure.

A Joint Solution to a Fishy Problem.

Isosceles Information Solutions, a high-tech firm based in Manotick Ontario has partnered with Land Information Ontario, Fisheries and Oceans Canada (DFO), and three Conservation Authorities (CAs) - Grand River, Toronto Region, and Rideau Valley, to produce an integrated web-based solution capable of providing current information on Ontario's fish habitat.

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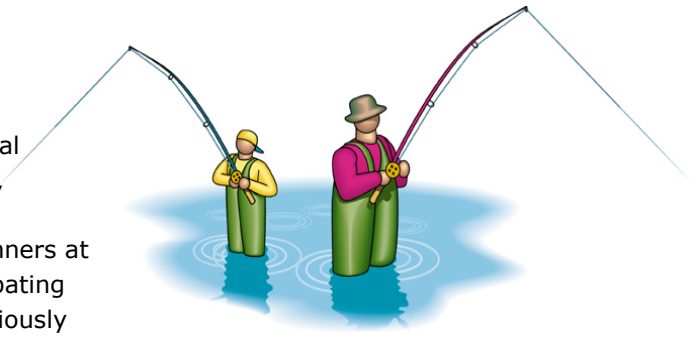
That solution - the Fish Habitat Portal - has drastically improved the efficiency of the habitat referral process by building web-based connections between individual spatial databases at the federal, provincial and local levels and linking them to a central interactive mapping site.

"This extranet portal provides biologists, regulators and environmental planners at each of the participating agencies with previously unavailable access to the most current spatial data", said, Isosceles president Neil Spooner. "It allows the partners to efficiently and comprehensively evaluate the impacts a proposed development will have on local fish habitat" he added.

While the initial stages of this project have focused on Ontario's Rideau Valley, Grand River and Toronto Region watersheds plans are currently in the works to roll-out the technology to incorporate watersheds in other parts of the province.

Ultimately the portal will be expanded to provide the public with the ability to zoom into their local watershed for general information about freshwater fish, their habitat, and the development referral process.

Rob Parry, Manager of MNR's Natural Resource & Environment Data Project is excited about the introduction of the Fish Habitat Portal. "It's the kind of partnership based solution that the Ontario Land Information Infrastructure was created to encourage and support" he explained, indicating that the application also shows that "different organizations can access, use and share the same authoritative and integrated data to support their individual business needs".



Funding for this project was provided by the Federal Government through its GeoConnections Access Program.

For more information the Fish Habitat Portal contact Rob Parry of the MNR at (705) 755-2158 (rob.parry@mnr.gov.on.ca) or Bruce Thomas of Isosceles Information Solutions at 1 800 570 5297 (bthomas@isosceles.ca) .

LANDSAT Captures Ontario !

By Dr. Carey Gibson

One way to get up-to-date information about land is to look at it – from space. A new partnership between the Ontario Ministry of Natural Resources (MNR) and Natural Resources Canada is making this easier.

Using LANDSAT-7 images obtained under an agreement with the US Geological Survey, the partners recently began assembling and processing a seamless mosaic of map-correct (orthorectified) images covering the entire province.

About 40% of the provincial coverage is already complete, including most of the populated areas of Ontario. The remainder will be accomplished over the next several years.

A joint project of the US National Aeronautics and Space Administration NASA and the US Geological Service, the LANDSAT-7 satellite is capable of collecting extremely detailed images. LANDSAT can "see" features as small as 30 metres, compared to the geostationary GOES satellites which can only resolve objects of 4 kilometres or greater.

LANDSAT-7 images consist of multiple spectral bands of digital data. There are six bands with 30 metre spacing between data points – three bands for the familiar red, green and blue that make up a visible image, and three bands in the infra-red spectrum. These infra-red bands make it easier to identify different types of land cover; for instance, hardwood and softwood forests, and various types of crops. This is a common use for this type of data.

The satellite also provides a higher resolution pan-chromatic band, with 15 metre spacing between data points. This can be used alone, or with the other bands, to extract features such as roads, shorelines, and even buildings.

To complement this seamless mosaic of map-correct images, MNR also has many more uncorrected LANDSAT-7 images, making it possible to view one area

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under various climatic and seasonal conditions.

Best of all, this imagery is available for use, without restriction, by all Ontario Government organizations, as well as by organizations and individuals working with the Government.

Need new satellite imagery? No problem. MNR also coordinates image acquisition across the Ontario government.

For information about obtaining processed, or new LANDSAT-7 images, please contact Dave White of MNR at (705) 755-1470, or e-mail him at david.white@mnr.gov.on.ca.

To learn more about LANDSAT - 7 check out the USGS web site at http://landsat7.usgs.gov/ or the NASA web site at http://landsat.gsfc.nasa.gov/.

Carey Gibson is a Remote Sensing Radar Specialist, with the Ontario Ministry of Natural Resources.

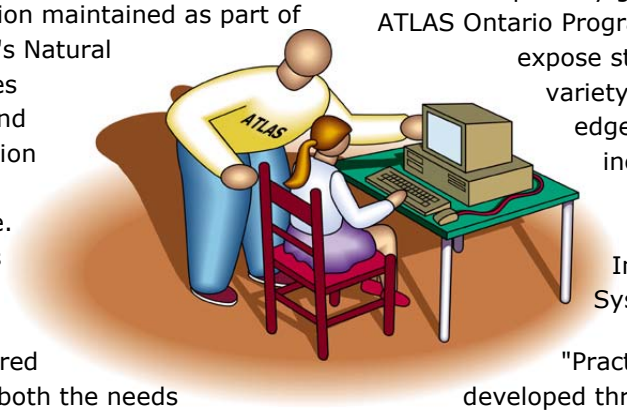
LIO & ESRI Break Ground with ATLAS

The Ontario Ministry of Natural Resources (MNR) has partnered with ESRI Canada's Schools and Libraries Program to distribute mapping data and lesson plans to primary and secondary schools in Ontario.

A Land Information Ontario (LIO) sponsored initiative, ATLAS Ontario (**A**ccess **T**o **LA**nd information for **S**chools), was created with the assistance of the Ontario Association for Geographic and Environmental Education (OAGEE). The Association's involvement has ensured that program materials meet the requirements of Ontario's new education standards.

Under the ATLAS Ontario partnership MNR is supplying raw geodata which ESRI Canada is packaging, distributing and supporting in the form of a comprehensive CD-ROM.

The mapping data provided by LIO has been compiled using more than 400 layers of geographic information maintained as part of the MNR's Natural Resources Values and Information System database. Data has been selected and tailored to meet both the needs of the curriculum and the instructional requirements of geography teachers.



For some time, Ontario's teachers have expressed interest in this information. Until now only small-scale (1-1,000,000) mapping data has been available to schools. This initiative marks the first time that large-scale (1-20,000) data has been made available for use in Ontario classrooms.

A wide-ranging collection of lesson plans has also been included on the CD. Developed jointly by ESRI Canada and representatives of the education community, these plans have been specifically tailored to support Ontario's new geography curriculum. Students in grades 9 through 12 will use the resources available on the CD to study relevant rural-urban development issues, including those relating to the Oak Ridges Moraine. ATLAS Ontario will also help students explore significant physical formations, such as the Niagara Escarpment, consider environmental topics, such as wildlife and habitat management and learn how geographic issues impact resource based industries, such as tourism.

One of the primary goals of the ATLAS Ontario Program is to expose students to a variety of leading-edge technologies including the Internet and Geographic Information Systems (GIS).

"Practical skills developed through application of real world data provides no better learning environment for students" says Gerry Bell, a member of the OAGEE executive.

As a teacher of GIS technologies at Port Colborne High School, Mr. Bell is enthused by the prospect of putting the ATLAS Ontario CD to work in his classroom. "Atlas Ontario data provides the means to achieve a high quality GIS environment for Ontario students" he explained.

Educators and students across the province are welcoming the wealth of information and resources provided through the Atlas Ontario

Partnership. It is hoped that this CD will lay the foundation for future projects to be developed

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and teacher subject councils. Teachers can order the CD from ESRI Canada for a small fee of $50.

For more information about the ATLAS Ontario Program contact Erin D'Alessandro, ESRI Canada's Education Industry Manager, at edalessandro@esricanada.com, or Anne Halverson, MNR's Manager of Information Access, at info-access@webmail.mnr.gov.on.ca

LIO Gets Compliant

Imagine a world where everyone benefits from geographic information, where services are available across any network, application, or platform. That's the goal of the Open GIS Consortium (OGC).

An international consortium of more than 220 companies, government agencies and universities, OGC is working to establish and promote common interface specifications for geographic information that are freely available for global use.

Land Information Ontario (LIO) has recently introduced an OGC Compliant Web Mapping Interface.

This interface is designed to allow users to view selected data sets stored in the Ontario Land Information Warehouse (OLIW) in conjunction with other data sets on other sites around the world, without physically downloading any data.

The Canadian National Forest Information Service (NFIS), for example, is able to examine data on forests in Ontario by viewing, on the same Internet Browser screen, overlapping maps from British Columbia, Ontario, and the Government of Canada. The composite map can be queried, printed, and its spatial and non-spatial data analyzed together.

As in all OGC-compliant map servers, the user begins the process by visiting a web site equipped with a "cascading server". The user then selects the desired remote sites from a list then chooses specific data sets from each. The cascading server automatically adjusts the various data sets so that they can be viewed together and, voila, the user has a composite map that appears as if it were a single product from a single source.

Today the LIO OGC-Compliant Web Map Interface is limited to only a few data sets pending a review by the data contributors as to what data sets they would like to make available through this service. In the future it is very likely that the bulk of data in the Warehouse will be readily accessible to any users who wish to use this service.

For more information on the OGC check out its web site at www.opengis.org.

Breeding Birds go On-Line

Last Summer the Canadian Wildlife Service, Bird Studies Canada, the Federation of Ontario Naturalists, and the Ontario Field Ornithologists teamed up with the Ontario Ministry of Natural Resources to create an Internet application that will allow birders, worldwide, to access an on-line atlas of Ontario breeding birds.

While the format of the new Ontario Breeding Bird Atlas is a major departure from its conventionally printed and distributed predecessor, the content will be very similar.

Like the original edition, the new Ontario Breeding Bird Atlas will take five years to compile (2001-2006). When complete it will incorporate detailed maps showing the distribution of each species of bird that is currently breeding in Ontario.

Compiling the new Atlas is a huge job and volunteer field observers are playing a big part in the process. Their involvement begins with the division of the province into 10X10km squares. Those squares are then grouped into regions.

Volunteers adopt one or more squares and then painstakingly search those areas looking for evidence that bird species are breeding in that quadrant. All of the data gathered by the volunteers is sent to a regional - coordinator who in-turn submits it for analysis and eventual publication.

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Volunteers, regional coordinators and other interested parties can currently use a predefined view within the Ontario Land Information Warehouse to identify and print maps of any of the quadrants which will be used to compile the Atlas.

To try this yourself go to the Land Information Ontario web site at www.lio.mnr.gov.on.ca, select "Data Warehouse" from the button bar, then click on the "search" option. This will take you to a selection of predefined topographic views, one of which will allow you to navigate to, view and print maps of each breeding quadrant.

Once the data collection process is well underway organizers will begin to summarize and publish field observations to the Warehouse. When sufficient Ontario-wide data has been gathered the full second edition of the Ontario Breeding Bird Atlas will appear on-line as a Warehouse "view".

There are several advantages of using the Ontario Land Information Warehouse to house the second edition of the Ontario Breeding Bird Atlas. The first relates to cost. Since any view of the new Atlas will be generated in real-time using actual data held in the Warehouse it becomes relatively inexpensive to produce updates on an annual, or even more frequent basis. This means that the bother and expense of a full publishing run is not always required to get new data "out there".

Another distinct advantage of the on-line version of the Atlas is its ability to be fully searched using a interactive, map based, Internet browser tool. This feature allows users to quickly home in on an area and obtain only the information they need.

Finally by making the second edition of the Atlas available through the Ontario Land Information Warehouse, Ontario's bird breeding data will become readily available to stakeholders worldwide, thereby increasing interest in the conservation and protection of Ontario's birds and helping to provide answers to key biological questions.

By leveraging the power of the Ontario Land Information Infrastructure to gather and publish Breeding Bird data Ontario's Birding community has found an affordable and effective way to improve its ability to gather, monitor and distribute information about breeding bird activity in the province. An end result which is not only good for the Birds but our environment as well.

The GeoLocator: Spatial Data Entry over the Web

by Sydney Nestel

e*nvironet* is a multi-year initiative designed to bring the Ministry of the Environment's (MOE's) data and process management into the Internet age. Key goals include developing new web technologies to streamline the Ministry's client reporting process, improve its ability to generate accurate and timely stakeholder reports, and "geo reference" its data.

The latter objective is critical to achieving the MOE's goal of "place based resource management". By building a complete data set containing current and accurate point source information, the Ministry will be in a much better position to monitor ongoing activities and accurately forecast the impact changes in those activities would have on an area's water and air quality.

Two *environet* initiatives, the Water Works Registration Module (WWRM) and the Air Emissions

Inventory System (ONAIR phase II), will require users (in the case of WWRM - owners of water works, and in the case of ONAIR - emitters of air pollutants) to register their facilities with the Ministry.

The challenge was how to make the registration process easy and user friendly, while at the same

time ensuring that accurate locational data is collected for each facility, or part thereof.

Initially the *environet* team considered the idea of using web-

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based forms to assemble this Information. Users would enter their UTM Easting, Northing, Zone Number, Datum, Accuracy Estimate, and GeoReferencing Method.

While this approach met the provincial standard, it was quickly determined that few of the anticipated 15,000 registrants have the technical background to provide this information.

Since unintended errors in filling these forms could end up locating facilities hundreds of kilometers from their actual location, it was soon agreed that a much more user-friendly map based interface was needed to collect this data. Thus was born the idea of a GeoLocator utility.

Funded by Ontario's Land and Resources Cluster of Ministries and built by Systems Knowledge Engineering (SKE) Inc., to the specifications of MOE's *environet* team, the GeoLocator is a highly configurable web-utility. It allows users to precisely determine the geographic location of any given feature simply by clicking on a map, entering a postal code, a settlement name, a township name, a county name, or an OBM map sheet number, or by entering a UTM or Lat/Long coordinate in either NAD 27 or NAD83.

To guarantee accuracy, it was decided that the GeoLocator would use the provincial standard data held in the Ontario Land Information Warehouse. MOE initially expressed concern that the road information stored in the Warehouse was too inaccurate to allow users to accurately plot the location of their facilities in urban areas. To solve this problem, Land Information Ontario (LIO) staff worked closely with MOE to source labeled and up-to-date road information. As an enhanced feature, LIO also secured access to Postal Code data from Statistics Canada. This information enables GeoLocator users to type in the postal code of a particular facility to generate an on-line map of the area.

Presently deployed as a freestanding web service, GeoLocator will initially be used to support the MOE's WWRM system and its ONAIR phase II system. Plans are currently afoot within the Ministry to expand the use of GeoLocator to support other systems.

GeoLocator is a versatile tool. It can be incorporated into any application that requires users to enter accurate locations of point features. Recognizing this the Ministry of Environment recently entered discussions with Land Information Ontario to develop an agreement which would see GeoLocator available for use across the Ontario Public Service.

If you would like more information about how GeoLocator can be integrated into your application environment, please call Lee Prasaud, Head of Information Technology Services, Land and Resources Cluster. Lee can be reached at 416-314-5879

Sydney Nestel is applications architect with the environnet team.

Communities Share "Smart" Ideas

A short time ago some of Ontario's emerging "smart" communities got together to share ideas, interact with high-tech vendors and explore ways of collaborating in the preparation, development and implementation of smart services and applications.

The three day forum, held in Toronto between December 4th and 6th, was jointly sponsored by Regional Networks for Ontario, Connect Ontario and GeoSmart. Complementary programs, Connect Ontario and GeoSmart are being delivered through an innovative partnership of the Ontario Ministries of Energy, Science and Technology and Natural Resources.

Participation was limited to representatives of communities applying to the Connect Ontario and GeoSmart programs, ministry staff and facilitators.

On the first day of the forum, community representatives and IT vendors got together over dinner to discuss new products and opportunities.

Next morning, attendees began their day learning about emerging communications and geospatial

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technologies through a series of workshops.

Workshops included topics such as, e-commerce, e-government, community economic development & partnerships and ICT awareness.

The final day of the forum featured presentations on the Ontario Land Information Infrastructure and Land Information Ontario as well as concurrent sessions on leading-edge geographic information systems and community internet portals.

Before going home many participants expressed thanks to the organizers for helping to bring participating communities together to share their challenges, ideas and solutions in a collegial atmosphere.

As one of the delegates put it, "I learned a lot, especially from the participants that are further down the road than we are".

Map Librarians Lend OGDE Support

By Barbara Znamirowski

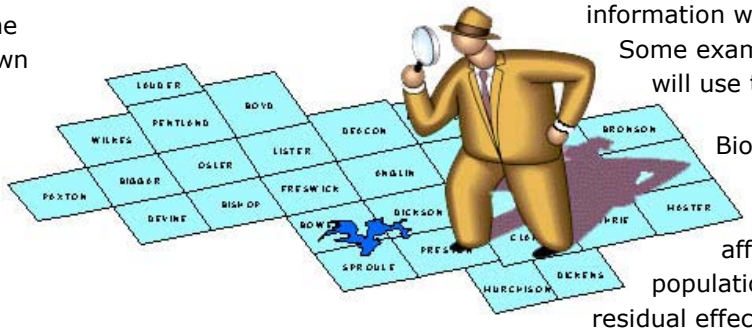
Collectively, the map libraries of Ontario's universities contain one of the largest concentrations of printed cartographic materials in Canada. But the needs of patrons are changing. In addition to traditional requests for aerial photography, atlases and sheet maps, librarians are spending more and more time managing demands for geographic materials in digital form.

Coping with this evolution has created many exciting challenges and opportunities.

In the face of ongoing budgetary restraint, academic libraries have had to dig deep and build new partnerships to find the resources they need to take on this new role.

The good news is that many positive changes have resulted. Ontario's academic map libraries have expanded their mandate to include serving as the campus centre for geospatial data.

Tasks associated to this new function include fostering relations with geospatial data producers, hosting mirror servers, supporting data partnerships, administering data licence agreements, and building the web pages, search engines and catalogues - the sophisticated "road map" to geospatial data sources – our academic communities require.



Library associations, such as the Association of Canadian Map Libraries and Archives (ACMLA), the Canadian Association of Research Libraries (CARL), the Ontario Council of University Libraries (OCUL) and the Ontario Council of University Libraries Map group, have worked closely with the private and public sectors to influence the provision of this type of data in Ontario.

Over the last decade, this work has produced a number of partnership agreements for geospatial data and software. Organizations which have signed such agreements include DMTI Spatial Inc., ESRI Ltd., the National Capital Commission (NCC), Natural Resources Canada, Statistics Canada and, most recently, preliminary agreements with the Ontario Ministry of Natural Resources (MNR).

In the past year, six universities – University of Guelph, McMaster University, Trent University, University of Ottawa, University of Toronto and the University of Waterloo - have signed Memoranda of Understanding (MOU) with the MNR to receive Natural Resources Values Information System (NRVIS) data for specific regions. Librarians at these institutions report that this data is being enthusiastically received by patrons who are excited to obtain information with this level of detail. Some examples of projects that will use this data include:

Bioregional studies of Haliburton, biotic and abiotic factors affecting wolf populations, case studies of residual effects of forest fires on provincial parks, capacity of municipalities to adapt to water scarcity due to climate change and wetlands management of Great Lakes shorelines.

These interim data-sharing agreements have already produced several collaborative research efforts involving MNR's district

offices and universities. But the big news is that these agreements have the potential to open the door to additional research opportunities

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for undergraduate and graduate students.

Results indicate that expanding this data-sharing relationship, to include a wider range of government and other public sector geodata, would have a very beneficial impact on all partners in academic, public and private sectors.

The Ontario GeoSpatial Data Exchange (OGDE), a concept recently introduced by MNR's Land Information Ontario project, should facilitate this arrangement. A central component of the Ontario Government's Land Information Infrastructure, the OGDE provides for the centralized sharing of spatial data within Ontario's broader public sector through a standard agreement, directory and distribution facility.

Ontario's Academic librarians and faculty have closely monitored progress towards the creation of the Exchange and have actively participated in stakeholder consultations and prototype demonstrations.

Their consensus? Participation in the OGDE has the potential to support unprecedented academic access to a broad range of Ontario based geodata. In-turn, easy access to this data will encourage more proposals for undergraduate, graduate and post-doctoral research. The result? Academic institutions will graduate students who are familiar with a wide array of Ontario Land Information, who are trained to use that data, and whose interests have been sparked to engage in further research be it at the academic, public or private sector level.

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OBM Data Offered in NAD83 Standard

The Information Access Section of the Ministry of Natural Resources has announced that in Spring 2002 it will release a series of Ontario Base Map tiles that have been converted to the NAD83 positional standard.

The tiles will be available in Shape, DWG, EPS and GeoTiff formats. The GeoTiff products, in particular, have been introduced to meet the demands of owners of handheld GPS receivers.

These quality geo-referenced OBM raster images can be used for any outdoor activities that require accurate large-scale maps, including prospecting, wildlife surveys, hiking, forestry, orienteering and geocaching.

Plans are to offer the products to OPS clients through the MapCentre. Non OPS customers will be able to purchase the products from the MNR's network of digital map retailers.

For a list of those vendors visit the LIO web site or click here: http://www.lio.mnr.gov.on.ca/lioweb/purchase/digital-maps.asp. For additional info. e-mail Information Access Services at: info-access@webmail.mnr.gov.on.ca.

Have a suggestion? Need more info? Like to see something featured in an upcoming issue? We want to hear from you! Contact the Editor at (416) 314-3414 or **lio@webmail.mnr.gov.on.ca**

Do you need more background on the Land Information Ontario program or the Ontario Land Information Infrastructure? Check out the LIO web site at **www.lio.mnr.gov.on.ca.**