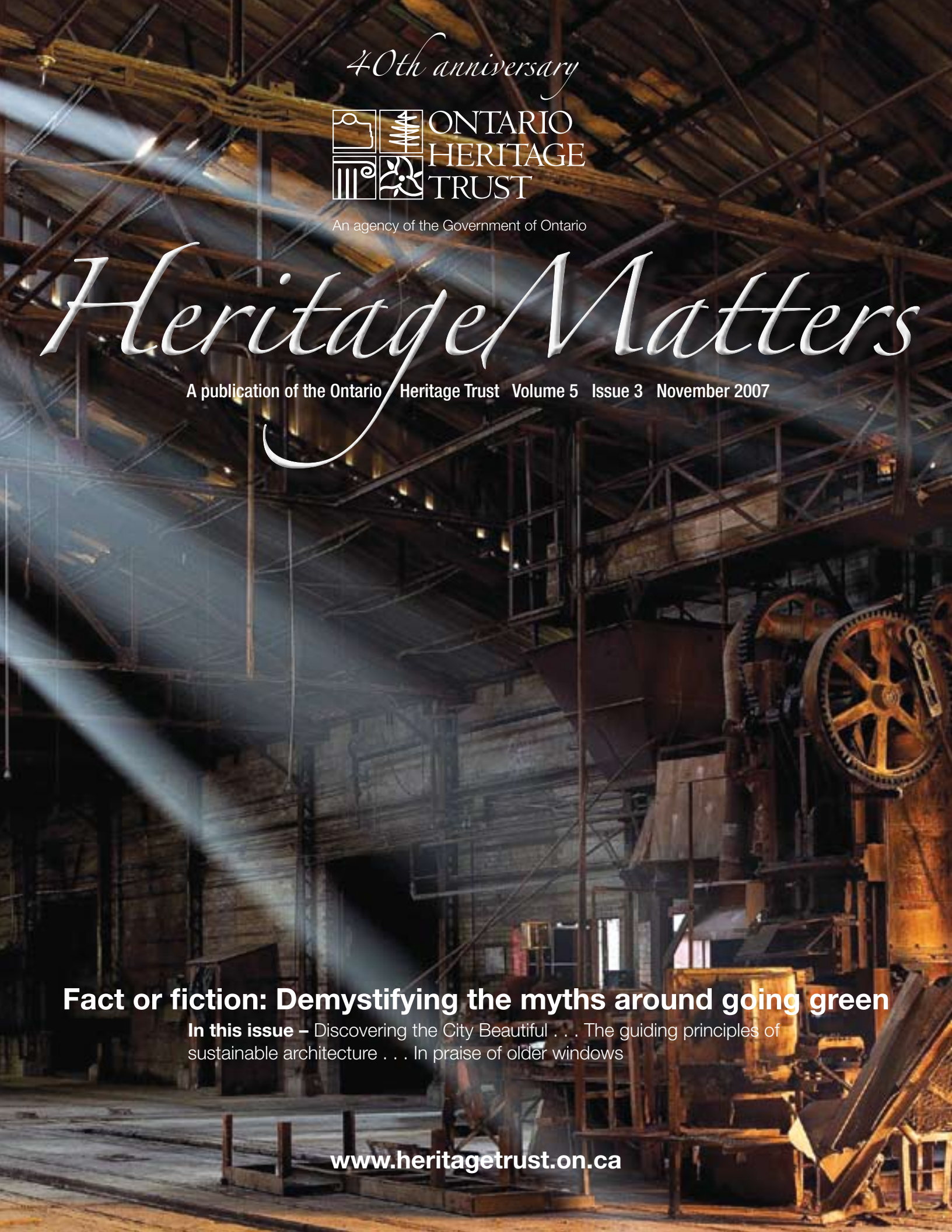


40th anniversary

ONTARIO HERITAGE TRUST

An agency of the Government of Ontario

Heritage Matters

A publication of the Ontario Heritage Trust Volume 5 Issue 3 November 2007

Fact or fiction: Demystifying the myths around going green

In this issue – Discovering the City Beautiful . . . The guiding principles of sustainable architecture . . . In praise of older windows

www.heritagetrust.on.ca

A message from The Honourable Lincoln M. Alexander, Chairman

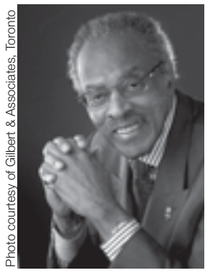


Photo courtesy of Gilbert & Associates, Toronto

I grew up during the Great Depression. From early on, I learned to reuse and adapt. Since then, an entire generation has been conservation-minded by doing little things – from switching off lights, to mending clothing, to reusing gift wrap. Without even knowing it, this generation's behaviour is unselfconsciously green.

Today, the environment is a hot topic that everyone seems to be addressing – from governments and corporations to municipalities and individuals. There are many ways we can save our planet. But one has to question whether some of these so-called green practices and products are little more than marketing tactics. Through careful information gathering and intelligent decision making, we can all live in a more sustainable way.

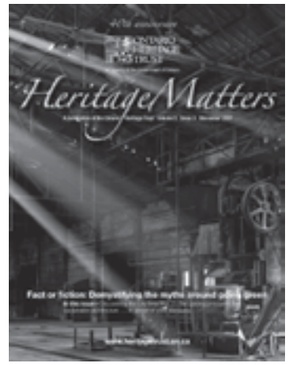
When you think about it, heritage conservation is innately green. Maintaining a heritage structure makes more sense than tearing it down and dumping the debris in landfill. Given that the Ontario Heritage Trust has a mandate for both built and natural heritage preservation, neither of these outcomes is acceptable. As a society, we need to keep these issues in mind. Adaptive reuse of heritage buildings makes increasingly more sense. Replacing landfill with landscapes must become the norm. And we can do this by working – and planning – together.

Communities will thrive and grow if we build new buildings with an eye to their long-term sustainability. Or, better yet, adapt existing buildings to new purposes. While heritage speaks to our past and augments our culture, it also becomes future-looking and future-thinking. More than ever, the direction of heritage conservation is critical.

This issue of *Heritage Matters* explores a range of approaches to sustainability. We hope that you will find it thought-provoking and inspiring. The next time you look at a new building or enjoy a conservation area, ask yourself the questions posed here. The answers may surprise you.

Feature story

Fact or fiction: Demystifying the myths around going green, Page 2



Don Valley Brick Works (Photo: Michael H. Reichmann)

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11/07

Ontario

Fact or fiction: Demystifying the myths around going green – Moving toward a more sustainable architecture

By Sean Fraser

The word "sustainability" has become so over-used that it is starting to sound hollow. Before we can discuss architectural sustainability, we need to return to the terminology itself.

Sustainable: *able to be maintained at a certain rate or level . . . conserving an ecological balance by avoiding a depletion of natural resources (Oxford English Dictionary)*

Using this vision of sustainability, let's consider some prevailing myths that may inhibit our ability to develop environmentally responsible architecture. Following each myth is a counter-proposal that recaptures the objective of sustainability. These ideas are controversial and provocative, but they also reflect the core ethos of the conservation movement in both cultural and natural heritage.

Window repairs using traditional glazing methods at historic Fryfogel Tavern (Perth County). The Trust holds a conservation easement on Fryfogel Tavern.

Myth: We can build our way to sustainability

New green buildings, products and materials are more sustainable than existing ones. If all our new buildings are green, we will solve our sustainability challenges.

Proposal: Invest in existing building stock

The current green wash of the marketplace can divert us from the real solution. Our approach to sustainability must move from an assumption of new construction to a mindset where renovation, rehabilitation and recycling are the norm. Architecture is long-term infrastructure that must be retained for centuries – not a commodity to be discarded within a generation.

Myth: Science will save us

Technology exists to provide luxury and ensure that we continue to purchase newer and better products. Given enough time and incentives, new technology and scientific innovation will solve all our energy, pollution and resource depletion challenges.

Proposal: Wants aren't needs

A more noble purpose of technology should be to make our lives better, to ease suffering and ensure that we survive and prosper. Our environmental impact is mostly driven by our wasteful rate of personal consumption – shopping as recreation. The planet is a closed system with finite resources. Technology can help us use our resources wisely, but corporate, community and personal restraint are also required.

Myth: Newer is better

Better technology, innovative materials and green design make new buildings sustainable, while older buildings are inefficient.

Proposal: The wisdom of traditional building technology

We expect older buildings to perform like modern ones and sometimes this makes historic buildings appear less efficient. Before we evaluate new versus old, we need to evaluate the expectations themselves. One of the most challenging issues in modern building practice is the artificial isolation of interiors from our natural environment, akin to living in a bubble. This has major philosophical, architectural, environmental and technological repercussions that are difficult to overcome. It is extravagant, unrealistic and unhealthy to isolate ourselves completely from the environment. A traditional building responds to the seasons and reminds us that all architecture – interior and exterior – is part of the environment. We need shelter, but we shouldn't be hermetically sealed into our shelters.

Myth: Higher density is more sustainable

If we build as densely as possible, we can benefit from an economy of scale with respect to public infrastructure – from transportation and roads to water, power and sewage.

Proposal: Urban form must be durable, serviceable and reasonable

High urban density may be a laudable objective, but the urban form the density takes will dramatically impact its long-term sustainability. Taller isn't always greener. While density may lead to savings in one sector, it may cost in others. For instance, with building heights over 10 storeys, the stack effect forces a reliance on year-round mechanical air conditioning. Eventually, the cost of electricity and other factors may make high-rise construction no longer viable – especially when combined with the short life cycle of some cladding systems.

Historical architectural debris from Toronto's Walnut Hall – a designated heritage building that was demolished in 2007.

Myth: Sustainability must be weighed against economics

New construction is a pillar of our economy. The objectives of sustainable architecture must be weighed against larger economic and political priorities.

Proposal: Environmental destruction is not economically sustainable

The modern construction industry relies on mass-produced prefabricated building systems shipped from long distances rather than customized building systems that are labour-intensive and locally available. While change will require a global economic realignment, industry must evolve as well.

Myth: Low maintenance is green

Minimizing or eliminating maintenance is an objective of sustainable design.

Proposal: Labour is the most renewable resource

Common sense teaches us that everything wears out and needs attention over time. We must plan for maintenance and repair in the design of all buildings – new and existing, heritage and non-heritage – effectively investing in craft and labour rather than replacing entire building systems when a single component fails.

Sustainability requires that we retain, understand and conserve existing building stock. It will take public education and building consensus, but the tide is turning – albeit slowly – in favour of conservation.

Sean Fraser is the Manager of Conservation Services at the Ontario Heritage Trust.

401 Richmond Street, Toronto – an example of a green roof.

DISCOVERING THE CITY BEAUTIFUL

By Beth Anne Mendes

On July 25, 2007, the Ontario Heritage Trust and the Town of Kapuskasing unveiled a provincial plaque to commemorate the town plan that helped shape Kapuskasing – Ontario's first provincially planned single-resource community.

A 1930s view of the town site taken from the north, looking towards the mill. Photo courtesy of The Ron Morel Memorial Museum, Kapuskasing.

Kapuskasing was born out of the need for housing prisoners and internees during the First World War. When the war ended, returning soldiers were encouraged to settle in northern communities. In 1918, with this ready workforce in mind and the abundant forest resources in the area, the Ontario government introduced concessions for pulp operations. It was anticipated that a town would be needed to accommodate the approximately 2,500 people moving to Kapuskasing to work in the mills. Ernest C. Drury, then-Premier of Ontario (1919-23), recognized this as an opportunity to create the first diversified resource community to be operated by its citizens as a municipality.

As a response to rapid industrial development and urbanization during the late 19th century, town planning theory evolved to integrate urban design with quality of life. These movements attempted to create harmony between city and country life. In 1921, a plan was completed for Kapuskasing by Alfred Hall of the Toronto planning firm Harries & Hall. The plan incorporated elements of two established approaches to urban design – the Garden City and City Beautiful design movements. Each of these movements focused on improving a town's cultural and economic life through natural and esthetic means.

The creation of Kapuskasing as an independent municipality, as opposed to a company-controlled settlement, reflected Garden City socio-economic ideals, including: smoke-free cities with tree-lined streets; open squares and beautiful landscapes; peripheral industries; and community ownership of all agricultural and urban land. The Garden City influence is most apparent in Kapuskasing's open space. Hall included a continuous greenbelt surrounding the subdivision that contained natural areas and small farm properties to act as buffers and accommodate future expansion. This project was a sustainable approach to urban planning and design.

The influence of the City Beautiful movement on Kapuskasing is most apparent in the street layout. The plan incorporates rectangular, radial and curvilinear streets. Many of the major avenues are oriented towards public buildings, such as the hospital, school and the main business area – located at Kapuskasing's central traffic circle. In addition, diagonal streets extended from the town site to provide clear direction for sustainable future development.

The Town of Kapuskasing was the first autonomous and provincially-planned resource community in Canada. Kapuskasing provided a quality of life previously unavailable in similar Ontario towns.

Premier Drury's vision and Hall's plan successfully incorporated the principles and ideals of the Garden City and City Beautiful movements within the context of a rural economy, the results of which continue to be appreciated today.

Beth Anne Mendes is the Plaque Program Coordinator with the Ontario Heritage Trust.

Evergreen Brick Works: RETHINKING SPACE

By Robert Plitt and Sean Fraser

Evergreen – a national charity – builds the relationship between nature, culture and community in urban spaces. With its revitalization of Toronto's Don Valley Brick Works, Evergreen demonstrates that heritage conservation and adaptive reuse are essential to creating sustainable cities.

In 1889, John, William and George Taylor founded a brick works north of the Don River. Their operation featured a quarry, buildings and a series of kilns. As technology improved and production increased, the operation evolved and expanded to meet the needs of the growing city. Following the Great Fire of 1904, many of Toronto's new landmarks were built with bricks stamped "DVBW." Over its 100-year history, this facility became Canada's largest and most successful brick works.

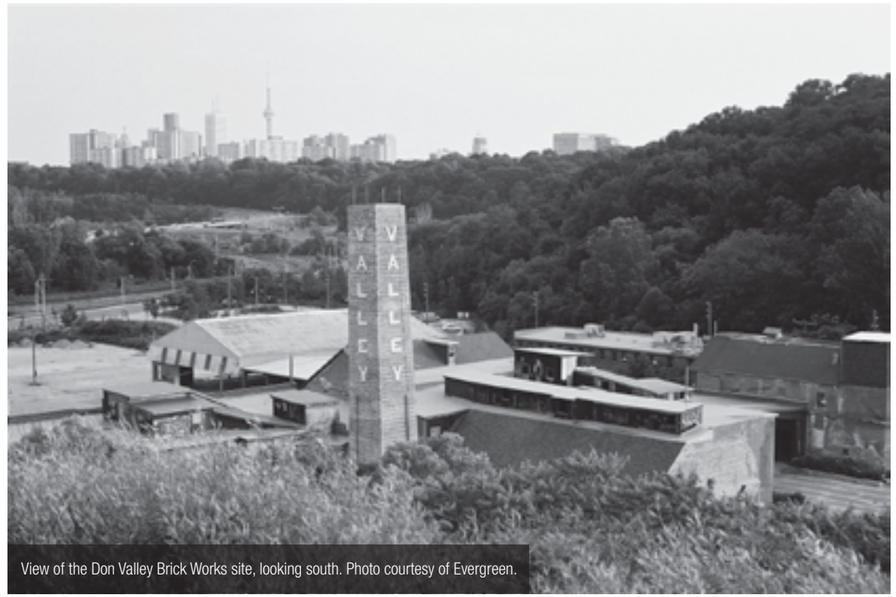
Following its closure in 1989, the 16.4-hectare (40.5-acre) property was expropriated by the Toronto and Region Conservation Authority (TRCA). From 1994-96, the site's quarry was regenerated as a natural heritage area – featuring wetland, meadow and forest. The industrial pad at the southern end of the property – consisting of 16 heritage buildings, numerous kilns and brick-making machinery – was essentially abandoned. In 2002, the city designated the Brick Works as a heritage property under the *Ontario Heritage Act*.

Evergreen approached the City of Toronto in 2002 to discuss options for redeveloping the site. In partnership with the City and the TRCA – and with significant financial contributions from the federal and provincial governments, and founding patronage from Robin and David Young – this concept has evolved into a $55-million environmental education centre. Evergreen Brick Works will promote new approaches to sustainability, interpret the cultural and natural history of the site and involve some of Canada's leading socially responsible non-profit organizations in educating communities about the importance of nature in cities. In addition to administering the provincial funding, the Ontario Heritage Trust is ensuring the site's long-term protection through a conservation easement.

The project will reuse over 90 per cent of the site's existing building material and feature a range of green-design technologies that will model sustainability by minimizing energy and water consumption, carbon imprint and waste. Working with the Canada Green Building Council, Evergreen Brick Works will inform the development of environmental performance criteria for LEED projects that have significant heritage and adaptive reuse components. A new building, rated LEED Platinum, will be constructed to house offices and classrooms.

This juxtaposition of old and new is a central theme of Evergreen Brick Works – when you rethink the past in a fundamentally different way, you can invent a new kind of future. For more information on this project, visit www.evergreen.ca.

Robert Plitt is the Manager of Sustainability with Evergreen Brick Works. Sean Fraser is the Manager of Conservation Services at the Ontario Heritage Trust.



View of the Don Valley Brick Works site, looking south. Photo courtesy of Evergreen.

LEED (Leadership in Energy and Environmental Design) is an international green building rating system developed in 1998 by the U.S. Green Building Council to provide standards for environmentally sustainable construction.

Inside Sheppard's Bush

By Sean Fraser and Karen Abel

Charles Sheppard (1876-1967) moved to the Town of Aurora in 1921, after making his fortune in the Simcoe County lumber industry. Brooklands, his modest estate near the centre of town, featured a series of English Arts and Crafts-style buildings. The estate was intended to be a farm for his son Edwin Reginald (Reg) Sheppard (1899-1996), who had recently graduated from the Agricultural College in Guelph.

Reg Sheppard, concerned about maintaining the ecological balance in a rapidly growing urban area, donated the property to the Ontario Heritage Trust in 1971 to be preserved in perpetuity as a conservation area. Today, Sheppard's Bush Conservation Area is a 23.5-hectare (58-acre) property, comprised of 15 hectares (37 acres) of maple-beech woodland, an eight-hectare (20-acre) recreational field and many historical and non-historical buildings. It is situated on the east side of the Canadian National Railway tracks and south of Wellington Street in a part of town that includes light industry and suburban housing.

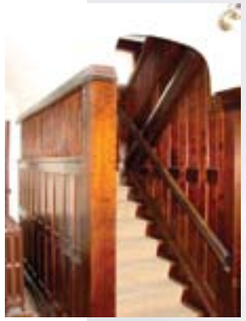
Situated on the northern edge of the ecologically significant Oak Ridges Moraine, Sheppard's Bush features open fields and maple-beech forests characteristic of southern Ontario. Forest ground-cover plant species include: wild ginger, large-flowered trillium, Jack-in-the-pulpit and Christmas fern. Bird species supported by the forest community include: northern oriole, eastern wood peewee, northern cardinal and the uncommon pileated woodpecker. A small spring-fed headwater stream of the Holland River traverses the southeast corner of the park at the base of a steep slope.

The most significant building on the property is the stucco-clad main house, designed by Toronto architect A.S. Mathers. Over the years, the sugar bush and sugar shack also located on the property became landmarks for generations of children.

Given its urban setting, perhaps the most significant feature of this property is its remarkable natural state. A longtime resident of Aurora, Reg Sheppard realized the potential for urban growth in the region and, through his donation, wished to create for future generations "an oasis in an area of paved streets and houses." Stewardship of the property's natural heritage features is managed by the Lake Simcoe Region Conservation Authority in partnership with the Trust. A network of approximately 3 km (1.9 miles) of trails is maintained within the conservation area, providing opportunities for natural heritage education. Sheppard's Bush highlights the impact that one individual with a commitment to sustainability can have. Part of the Trust's role as property owner is to honour Mr. Sheppard's goal of preserving the environmental integrity of the property. The Town of Aurora is currently designating Brooklands under the *Ontario Heritage Act*.

Sean Fraser is the Manager of Conservation Services with the Ontario Heritage Trust. Karen Abel is a Natural Heritage Consultant with the Trust.

Ostrich fern



Sheppard's Bush, main house

Gala evening launches Lincoln M. Alexander Legacy Fund

By Catherine Axford

Photo courtesy of David Lee

Forty years ago, as part of the province's centennial celebrations, the Ontario Heritage Foundation (now Trust) was created by the provincial government. Modelled on England's National Trust, the organization was mandated to "conserve heritage property for the benefit of all citizens of the province."

Today, with an expanded mandate and a new name, the Trust is charged with "identifying, preserving, protecting and promoting Ontario's rich natural, cultural and built heritage" – a broad mandate for a small organization. To remain successful in this goal, we need your help. The Trust raises at least 60 per cent of its operating funds. The Province of Ontario contributes toward operating and capital needs. As well, corporate donors sponsor programs and awards, foundations fund special initiatives and individual volunteers give generously.

Under the leadership of its Chairman – The Honourable Lincoln M. Alexander – the Trust's success in corporate and private fundraising has increased, supporting new initiatives in outreach and education. As a tribute to the Chairman, the Board of Directors established the Lincoln M. Alexander Legacy Fund to support the heritage conservation work of the Trust, including the protection of significant natural heritage sites, increased community outreach and celebrating the accomplishments of volunteers.

In May, the Trust celebrated its 40th anniversary and the Chairman's 85th birthday with a gala evening, chaired by Board member Esther Farlinger, at the Elgin and Winter Garden Theatre Centre in Toronto. Among the 340 guests were: Lieutenant-Governor James K. Bartleman, former Lieutenant-Governor Hal Jackman, former Premier Bob Rae, Senator Donald Oliver of Nova Scotia, Minister of Culture Caroline Di Cocco, Minister of Tourism Jim Bradley, Transport Minister Donna Cansfield and Toronto's Fire Chief, Bill Stewart. After an excellent dinner, the Chairman and guests moved to the Elgin Theatre to enjoy an old-time vaudeville show.

Net proceeds from the gala – $135,000 – represented the first contribution to the Legacy Fund. But the Legacy Fund is an ongoing activity. The Trust continues to raise funds, and hopes that you will support this important endeavour. In this magazine, you will find a business reply envelope. If you wish to support the Ontario Heritage Trust and the Lincoln M. Alexander Legacy Fund by making a donation, please use the envelope, write "LMA Legacy Fund" on the form and return it to the Trust. Your donation will provide a tribute to a remarkable man and help preserve our collective heritage for future generations.

Catherine Axford is the Executive Coordinator and Assistant to the Chair of the Ontario Heritage Trust.

Exploring the Beaver River Wetland

By Tony Buszynski

Photo: Lou Wise

In June 2007, the Lake Simcoe Region Conservation Authority (LSRCA) hosted a celebration to recognize the private and public efforts to protect two recently acquired wetlands – the Lacey and Norrie properties, part of the Beaver River Trail Conservation Area. A generous bequest by Katharine Symons – in remembrance of her brother, Lieutenant Douglas Bond Symons – was recognized, as were the contributions of other conservation partners, including the Ontario Heritage Trust and the Nature Conservancy of Canada.

The beautiful, provincially significant Beaver River Wetland runs from near Uxbridge past Blackwater and Sunderland and north to Cannington, covering an area of about 2,300 hectares (5,683 acres). Part of this wetland has been designated by the Ministry of Natural Resources as an Area of Natural and Scientific Interest (ANSI).

The Trust – through its Natural Spaces Land Acquisition and Stewardship Program (NSLASP) – contributed to these protection efforts by assisting with the acquisition of the properties. The Lacey and Norrie properties will now remain in public ownership with stewardship by the LSRCA, and natural heritage conservation easements held by the Trust.

These properties add 25 hectares (62 acres) to the LSRCA's Beaver River Trail Conservation Area. The Lacey property features 15 hectares (37 acres) of marsh, swamp and cultural thicket. The Norrie property consists of 10 hectares (25 acres) of mixed forest and swamp. With these two wetlands protected, they can continue to act as natural filters improving water quality, providing habitat for wildlife and offering recreational opportunities for the Lake Simcoe watershed's residents and visitors.

The Beaver River Wetland is a natural heritage gem worthy of protection. Given the ongoing pressures of urban development in this area, it's a challenge to keep a property natural with minimal disturbance to the ecosystems that comprise its rich biodiversity. Identifying and protecting such delicate ecosystems – and their associated natural habitats – demonstrate a responsible planning approach that will ensure the sustainability of our lands and natural resources in near-urban areas.

This wetland complex contains an immense variety of plant life and wildlife habitat. Some of the vegetation species that can be seen include cattail, white birch, wild rice and black walnut. Submerged and emergent aquatic vegetation are also plentiful, including water lilies, marsh marigolds and violets. Local wildlife includes muskrats, beaver, river otters and great blue heron.

Since 1978, the LSRCA has actively pursued the acquisition of privately owned land within the wetland complex that contributes to wildlife habitat, water-quality protection and for recreational opportunities for residents and visitors. The LSRCA has acquired and protected about 200 hectares (494 acres) of wetland complex.

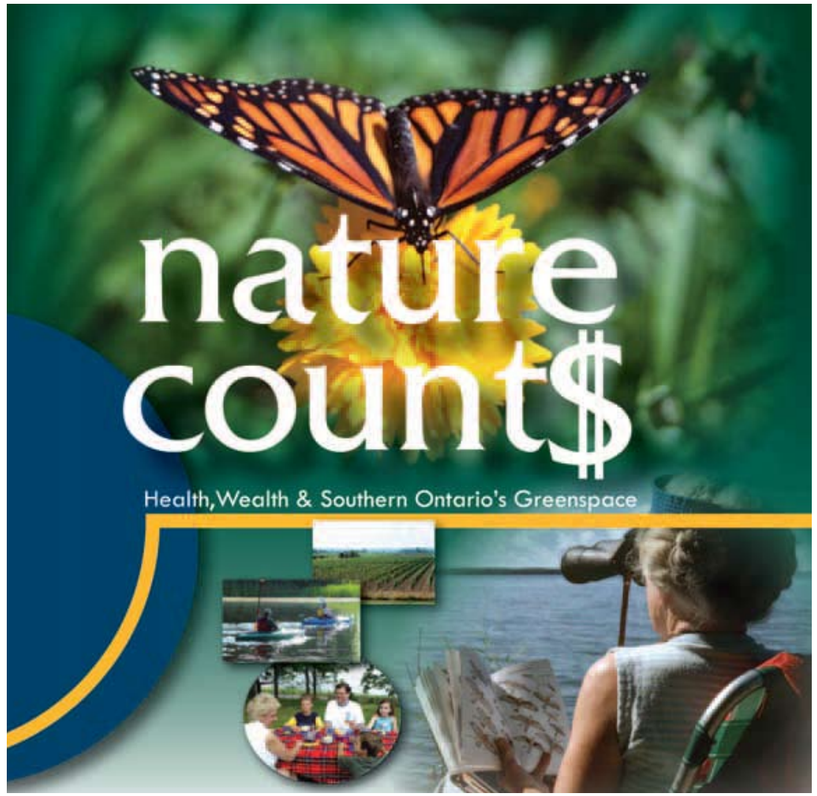
Funds through NSLASP have been allocated to assist with further acquisitions in the Beaver River Wetland, as well as the preparation of specific property baseline documentation reports and the overall stewardship plan for the Beaver River Wetland.

Tony Buszynski is the Acting Team Leader, Natural Heritage at the Ontario Heritage Trust.

A 13-km trail dissects the wetland complex, beginning in Blackwater and ending in Cannington. If you're planning a hike, you should visit the LSRCA website (www.lsrca.on.ca) for information about the wetlands, advice about trip arrangements and a map.

Why nature counts

Excerpts used, with permission, from Nature Count$ – Health, Wealth & Southern Ontario's Greenspace.



Nature Count$ is a report developed by the Natural Spaces Leadership Alliance with the Canadian Urban Institute. The Alliance was established by the Minister of Natural Resources in August 2005 – at the same time that the Trust's Natural Spaces Land Acquisition and Stewardship Program was announced by the Premier. The Trust has been an active member of the Alliance.

Many of us may not make a connection between protecting a wetland and our municipal water bill, or between fields covered with vegetation and the success of local businesses.

Nonetheless, our understanding of these linkages is growing. And the more we learn, the more we see that healthy natural areas are crucially important for long-term economic success and the well-being of society.

Natural areas provide valuable green services that include flood protection and water filtration that can generate savings on public works such as water treatment plants. The sustainable use of natural assets in forestry, eco-tourism and green energy can provide direct economic benefits to communities and landowners. Emerging research illustrates how greenspace has positive impacts on human health and well-being.

When we lose greenspace, we lose opportunity. We lose opportunities for new businesses; we lose the natural systems that clean our water and air; and we lose access to nature that is so integral to our emotional and physical health.

For these reasons, there is growing support for the idea that we should value natural areas for the socio-economic benefits they provide, as well as for their environmental functions, natural character or scenic beauty. Accordingly, we should also appropriately recognize that stewardship and conservation make southern Ontarians richer – as individuals and as a community.

New types of rural entrepreneurship incorporating the ethos of conservation and stewardship are unlocking the economic potential of a rich countryside. Eco- and agri-tourism, boutique agriculture and even alternate energy are taking a fresh appreciation for southern Ontario's greenspace to the bank.

Nature Count$ is intended to promote a better understanding of the social and economic benefits of greenspace and to encourage a dialogue about the challenges and opportunities ahead. It is based on a variety of research and information, from local to international.

There are opportunities for policy makers, municipal leaders, development, building and business communities and the environmental community to work toward an integrated vision of town and country – one that balances growth with greenspace conservation, seeing greenspace as an attractor for economic success and the bedrock of our healthy communities.

Visit www.canurb.com to view the complete report.

Heritage Matters *goes online!*

By Gordon Pim

Heritage Matters – the Ontario Heritage Trust's signature magazine – is now available online! PDFs of past issues from 2005 to present are available for viewing at our website (www.heritagetrust.on.ca).

From the story of Barnum House and the mysteries surrounding Algonquin Park's Brent Crater to updates on upcoming provincial plaque unveilings and how-to stories about conserving wallpaper or old photographs, *Heritage Matters* offers information and insight for thousands of people across Ontario each year.

Although the Trust prints its publications on recycled paper using vegetable-based inks, we are committed to offering an environmentally friendly alternative to the traditional paper-based version of our magazine. If your preference is to access the online version of *Heritage Matters,* please contact us at marketing@heritagetrust.on.ca.

Working together, we can keep Ontario greener – while, at the same time, keeping you current on what's happening in the world of Ontario's heritage.

Gordon Pim is a Marketing and Communications Coordinator with the Ontario Heritage Trust.

Conference and Reception Centres refreshed

By Isla Adelson

The Conference and Reception Centres at the Ontario Heritage Trust offers an extraordinary blend of historical and architectural significance with modern amenities.

George Brown House, built in 1876 for Senator George Brown (a Father of Confederation and founder of the *Globe* newspaper) and the Ontario Heritage Centre (built in 1909 for the Canadian Birkbeck Investment and Savings Company in Toronto's financial district) are both National Historic Sites that provide unique and memorable experiences.

These distinctive venues have been conserved by the Trust and adapted for sustainable re-use. During the summer and fall of 2007, they underwent restoration and renewal. The renovation was undertaken with care and sensitivity to the history of both heritage buildings, while recognizing that the conference facilities must offer enhanced 21st-century amenities. With this restoration, the conference spaces will have enhanced décor – such as new carpeting, wall treatments and updated washrooms – as well as new customized catering options. The Centres will continue to be competitively priced to meet all your needs – in carefully and tastefully refurbished rooms that can accommodate meetings and events from five to 150, depending on the venue and your needs.

For more information, call Judith Goodwin at 416-314-4911. Conference Centres revenue assists the Ontario Heritage Trust to identify, preserve, protect and promote our heritage for the benefit and enjoyment of present and future generations.

Isla Adelson is the Manager of Fundraising and Business Development for the Ontario Heritage Trust.

Sustaining species at risk

By Tony Buszynski, with photographs by Karen Abel

Ontario, with its broad geography, is blessed with incredible biologically diverse landscapes. Most of us take this amazing biodiversity for granted and do not fully appreciate the variety of wild plants and animals and their unique habitats.

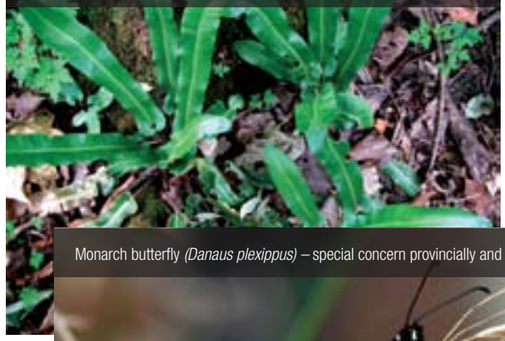
For many of these rare species, there is cause for concern as human activities grow and natural areas are modified or lost. In Ontario alone, more than 170 of our province's wild species are at risk of extinction and need our help if they are to survive and prosper. Only now are we starting to understand the significance of our natural biodiversity and why it is critical to human health and well being. The new *Endangered Species Act, 2007* provides better protection for Ontario's species at risk.

These photographs feature some of Ontario's species at risk that the Trust and its partners are working to protect. For more information, visit www.mnr.gov.on.ca/mnr/speciesatrisk.

Tony Buszynski is the Acting Team Leader, Natural Heritage at the Ontario Heritage Trust. Karen Abel is a Natural Heritage Consultant with the Ontario Heritage Trust.

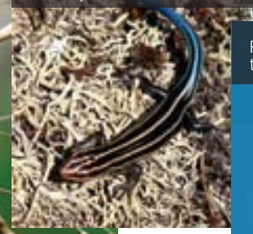
Kentucky coffeetree *(Gymnocladus dioica)* – threatened provincially and nationally.

American hart's tongue fern *(Asplenium scolopendrium americanum)* – special concern provincially and nationally.



Monarch butterfly *(Danaus plexippus)* – special concern provincially and nationally.

Five-lined skink *(Eumeces fasciatus)* – special concern provincially and nationally.



Peregrine falcon *(Falco peregrinus anatum)* – threatened provincially and nationally.

Photo: Barry Cherriere

The guiding principles of sustainable architecture

By Sean Fraser

In the late 1990s, the Ontario Ministry of Culture introduced *Eight Guiding Principles in the Conservation of Built Heritage Properties,* which are in common use in Ontario's heritage sector. When we translate these principles into the language of sustainability, they can help us better create more environmentally sensitive architecture as well as conserve our existing stock of heritage buildings.

Built heritage principle	Architectural sustainability principle
Respect for documentary evidence. Do not base restoration on conjecture. Conservation work should be based on historical documentation, such as photographs, drawings and physical evidence.	**Respect for documentary evidence.** Sustainable design should be based on an accurate and detailed understanding of the property, the existing and historical systems and conditions.
Respect for the original location. Do not move buildings unless there is no other means to save them. Site is an integral component of a building. Change in site diminishes heritage value considerably.	**Respect for the site.** The energy required to alter a site should be part of the overall energy calculation. Major changes in topography, excavation and vegetation should be avoided.
Respect for historic material. Repair/conserve rather than replace building materials and finishes, except where absolutely necessary. Minimal intervention maintains the resource's historical content.	**Respect for existing material.** Keep and re-use as much material as is possible. Minimize removal of building fabric and debris.
Respect for original fabric. Repair with like materials to return the resource to its prior condition, without altering its integrity.	**Respect for local materials, vernacular design and proven building traditions.** Historical building traditions were labour intensive, used local materials and responded unselfconsciously to the environment through good design.
Respect for the building's history. Do not restore to one period at the expense of another. Do not destroy later additions to a house solely to restore to a single time period.	**Respect for building and site evolution.** Utilize an incremental approach to site design that contributes to the architectural collage rather than carting everything to the landfill and starting over.
Reversibility. Alterations should be reversible to original conditions. This conserves earlier building design and technique.	**Recycle.** Will the new work be useful, adaptable and/or demountable to future designers?
Legibility. New work should be distinguishable from old. Buildings should be recognized as products of their own time; new additions should not blur the distinction between old and new.	**Legibility.** The site should be read as a testimony to its evolution. Does the design of the new building waste resources trying to dress up or disguise existing forms?
Maintenance. With continuous care, future restoration will not be necessary. With regular upkeep, major conservation projects – and their high costs – can be avoided.	**Maintenance.** Since the mid-20th century, attempts to minimize/eliminate ongoing building maintenance have only proven its importance. We must design for maintenance.

Sean Fraser is the Manager of Conservation Services with the Ontario Heritage Trust.

Repairs to the Gordon Block, Stratford (2007)

Building assets

By Romas Bubelis

Which is more sustainable – an artificial or live Christmas tree? This is an environmentalist's conundrum, and it illustrates the paradox of "sustainable" building materials.

Use of natural building materials diminishes a tangible resource. But the production of substitute, synthetic building materials consumes an even wider range of energy resources. At one end of the spectrum are materials such as wood. Lumber is a renewable resource. Akin to this are materials such as locally quarried stone and brick that require only modest energy to produce.

Traditional building materials

Contemporary building materials

It is no coincidence that these are the low energy-intensive materials of traditional construction. But their use in contemporary architecture is in decline while the use of high energy-intensive materials – such as vinyl, glass and aluminum – is on the rise.

There is a tremendous amount of energy expended to produce new, technologically innovative building materials. Most are composite materials, often transported over long distances between source of material extraction, location of manufacturing and location of use. One unit of brick takes about twice the energy to produce as does the equivalent unit of local natural stone. A given unit of glass requires six times the energy of an equivalent volume of brick. The manufacture of aluminum requires a supply of bauxite ore, a smelting plant and huge amounts of electricity. As a result, producing one unit of aluminum consumes 900 times the energy needed to produce the equivalent amount of lumber.

In the sustainability era, every material is said to have an "embodied energy." This concept is used to measure the true "energy value" of a building material or assembly over the course of its service life.

It is the sum total energy necessary to create and sustain an assembly and it takes into consideration a full life cycle of energy-consuming activities: raw material extraction, transportation, manufacturing, assembly and construction, collectively referred to as "initial embodied energy;" cyclical maintenance, restoration, and repair referred to as "recurring embodied energy;" and, finally, the energy expended to disassemble, demolish and recycle or dispose of building materials that are no longer needed. The embodied energy concept is as complex as it is holistic – it considers the energy used to create a material, but also the accumulated energy that is lost when, years later, that material is taken to landfill.

Maintenance and restoration activities add embodied energy value without consuming additional natural resources. It prolongs the service life of buildings and reduces landfill as well as the consumption of resources to produce replacement material. The most sustainable material is the one that required little energy to produce and, through maintenance and care, has provided decades of service. In architectural heritage conservation, as in environmental sustainability, it is far better to maintain and repair than to replace. The greenest building is the one you already have.

Romas Bubelis is an Architect with the Ontario Heritage Trust.

IN PRAISE OF OLDER WINDOWS

By Romas Bubelis

Romas Bubelis is an Architect with the Ontario Heritage Trust.

Façade: a word of double-edged meaning. Architecturally, it refers to the face of a building. In literature, more often than not, it connotes a front of showy misrepresentation intended to conceal something unpleasant.

The Ontario Heritage Trust is in the midst of restoring a façade – that of its Toronto headquarters, the Ontario Heritage Centre. This façade has a restrained Edwardian character punctuated by bursts of Beaux Arts-spirited ornamental swags, wreaths and figural carving. It is made of industrially produced cast stone but has hand-carved sandstone embellishments. Portions of the cast stone have deteriorated beyond the reach of conservation and are being replaced with new like material. The rest is being repaired and cleaned. But how much to clean? What constitutes patina and should it be retained? How uniform must old and new look? The Trust is taking a cautious approach to gently preserve the face of this building so that it comfortably takes its place on Adelaide Street, as one of a few older citizens in a neighbourhood increasingly populated by new arrivals.

The Ontario Heritage Centre was designed by architect George Gouinlock, built in 1908 for the Birkbeck Saving and Investments Company. The façade was the dignified face of company headquarters – a best foot forward to what was essentially a speculative office building of typical quality. This face stylishly represents the building behind it, but also reveals something about the way the building was intended to function.

Windows are where style and function come together. The façade contains a great variety of windows – circular and large arched windows with glazing subdivided by elegantly thin mullions, operable single-hung sash windows and two giant semi-circular windows at the second floor, each swinging open on its central pivot. The windows of the other sides of the building are all operable as well. If we look at the façade, and then through its windows into the building, an intrinsic characteristic is revealed: this building was designed to function with natural light and natural ventilation. The modern mechanical systems installed in 1989 were designed to complement the function of these earlier ventilation devices.

Elevators were commonplace in 1908. Electricity was available but privately controlled and unreliable. Ceiling fans provided limited mechanical ventilation. Air conditioning would only become available in 1915 and the chiller that provided cooling for large occupied spaces was not introduced until the mid-1920s.

Between about 1880 and 1915, multi-storey commercial buildings made possible by elevators still relied primarily on natural ventilation and light. Buildings were designed to respond to climate and site in a way that made them work with the elements rather than against them – a common-sense and unselfconsciously green approach to environmental control.

The Birkbeck Building has graduated ceiling heights. The ground floor, where the light condition is least adequate, has 20-foot ceilings with very tall windows and a mezzanine to maximize day-lit office space. The second floor is 13 feet high, to accommodate large windows in rooms associated with prime, walk-up tenant space. The typical upper floors have 11-foot ceilings, sufficient to light small repetitive offices while reducing the stairs to be climbed.

In plan, the Birkbeck Building is open on three sides. Ancillary spaces – such as stairs, washrooms and vaults – are relegated to the darkest portion of the floor plate against a blank party wall. The average depth of an office is about 24 feet, which is the depth that daylight will penetrate. There is a slightly indented light court facing west to catch light when it is most valuable and difficult to obtain – the late afternoon. Sash windows admit light into the perimeter office spaces and the general office area beyond. These private office areas are separated from the public corridor by wood partitions with large frosted glass panels that still allow light to filter through to the internal corridor.

A similar set of passive devices regulates ventilation. The corridor has operable windows at either end to provide cross-ventilation – creating, in effect, a large central cooling duct. Internal doors incorporate a variety of transom panels, each with their own system of manual controls that, like baffles, can be adjusted to control and channel cross-circulation of air. They come in a variety of sizes and are devices that are full of utility, but also of delight.

The façade of the Birkbeck Building conceals something that is practical, but by no means unpleasant – a building that takes full advantage of natural light and ventilation. At a time when new buildings are being designed with an eye to sustainable levels of energy consumption, the Birkbeck Building – and others like it – provide enlightened examples of how it can be done.

Casement windows of the Oval Boardroom.

Interior corridor with frosted glass partitions.

Transom panel that promotes air circulation.

WHAT'S ON . . .

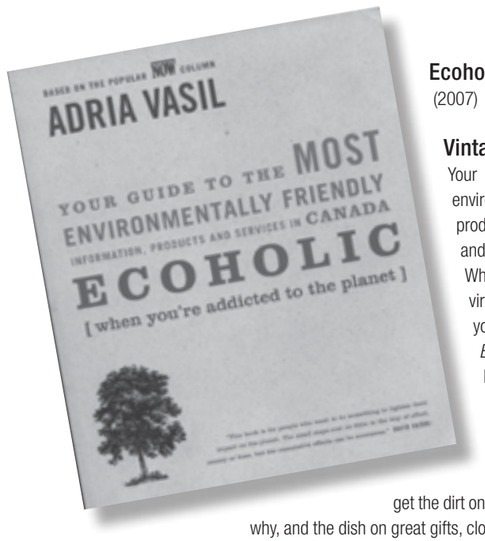
. . . the shelf

John Macdonell of Scotus:
Correspondence and Papers 1795-1856,
by Valerie Verity (2006)

Heritage Press. John Macdonell of Scotus was a prolific letter-writer, to and from family members, Lord Selkirk and others. Through this correspondence and his personal papers, we learn of life in Upper Canada in the 1800s. John's character is revealed, along with his work, finances and struggles, leaving us with a feeling of admiration for this proud Highlander, a gentleman who was generous, loyal and loving to his family. The book also contains photos and copies of personal papers pertaining to "Poplar Villa" (now Macdonell-Williamson House) and his general store. It offers an important slice of early Canadian history, our fur-trading heritage, and a close look at the mansion the family built on the Ottawa River, which still stands today.

To order your copy, contact the Friends of Macdonell-Williamson House at 450-451-0261.

Macdonell-Williamson House is owned by the Ontario Heritage Trust and operated by The Friends of Macdonell-Williamson House.



Ecoholic, by Adria Vasil (2007)

Vintage Canada

Your guide to the most environmentally friendly products, information and services in Canada. When the world's environmental woes get you down, turn to *Ecoholic* – Canada's best resource for practical tips and products that help you do your part for the Earth. You'll get the dirt on what not to buy and why, and the dish on great gifts, clothes, home supplies and more. *Ecoholic* is a cheeky and eye-opening guide to all of life's greenest predicaments.

. . . the web

For more information about sustainability-related topics, visit these websites:

Association for Preservation Technology International (APTI)
www.apti.org/publications/Past-Bulletin-Articles/TOC-36-4.pdf
Clean Air Partnership
www.cleanairpartnership.org
David Suzuki Foundation
www.davidsuzuki.org
LEED (Leadership in Energy and Environmental and Design)
www.usgbc.org/DisplayPage.aspx?CategoryID=19
Go *for* Green
www.goforgreen.ca
Green Globes
www.greenglobes.com/design/homeca.asp
Ontario Ministry of the Environment
www.gogreenontario.ca
Species at Risk
www.dfo-mpo.gc.ca
www.mnr.gov.on.ca/mnr/speciesatrisk
US National Park Service
www.nature.nps.gov/sustainabilityNews
World Business Council for Sustainable Development
www.wbcsd.org
World Resources Institute: "Working 9 to 5 on Climate Change: An Office Guide"
www.safeclimate.net

SUSTAINABILITY FOR OLD BUILDINGS: A DEVELOPER'S PERSPECTIVE

By Alex Speigel

Adaptive reuse provides a sound and sustainable approach to the renewal of our urban fabric, as illustrated by the conversion of three Toronto buildings to residential lofts by Context Development – Kensington Market Lofts was created from the abandoned Kensington Campus of George Brown College, Tip Top Lofts was constructed within and above the vacant Tip Top Tailors Building on the waterfront and The Loretto brought new life to the darkened façade of Loretto College in the Annex.

With older buildings, one inherits their density and height, which is often greater than would be allowed today. Window openings are also grandfathered, providing more opportunities than current codes permit. Retention of landmark buildings also draws strong community support, which helps with approvals.

The marketing benefits of a conversion are significant. Older buildings provide greater floor-to-ceiling heights, unique architectural details and historical façades. Purchaser demand for historical buildings translates into positive publicity, higher sale prices and faster sales. Sales were brisk in all three of these projects – a testimony to the public's heritage appreciation.

The social benefits of retaining historical buildings are self-evident: protecting our heritage and retaining their established place in the neighbourhood. The Tip Top building, for example, has been recognized as a landmark since its construction in the 1930s.

Tip Top Lofts, Toronto. Photo: Context Development

Adaptive reuse also has strong environmental benefits. Retaining older structures conserves the substantial energy already invested in their original fabrication. Avoiding demolition results in less material in landfills, as well as reduced transportation and material costs. Use of infill sites satisfies public intensification policy in a low-impact manner, as well as using urban infrastructure and transit more efficiently.

Why isn't everyone rushing to convert older buildings? There are challenges that must be understood before beginning these projects. For instance, there are limitations to introducing a new program into an old structure. Floor plans must be tailored to fit within existing floor plates. Underpinning to enable underground parking is often cost prohibitive. Upgrading building envelopes can be technically challenging, and remediation is commonly required to deal with environmental contaminants. Designation of heritage buildings requires additional approvals, patience and understanding from the owner, the public and local government.

The biggest challenge with conversions is the harsh reality of time and money. These projects inevitably take longer and entail more specialized skills than new construction. Careful budgeting is required, including large contingencies. There are also often unknown factors that arise during construction that require resourceful thinking and flexibility.

Conversion projects, however, provide new life for heritage buildings, ensuring their vitality in the community and their economic and environmental sustainability for years to come. They illustrate the joys and sorrows inherent in adaptive reuse. The process is not for the uninitiated or faint of heart, but the rewards certainly can make the journey worth the effort.

Alex Speigel is President of Orenda Development Associates and Director of Development with Context Development.

Photo: Darcy Cheek, *The Recorder & Times*, Brockville

Enjoy an Edwardian Christmas tea at Fulford Place

Saturday, November 24, 2007
Four sittings: Noon, 1 p.m., 2 p.m. and 3 p.m.

Join us as we celebrate the 13th annual Edwardian Christmas tea at Brockville's Fulford Place. This delicious holiday tradition includes an elegant afternoon tea, a tour of the mansion and musical entertainment.

Book early for this popular seasonal event. Tickets are $10 per person. For reservations, please call **613-498-3005.**

The Edwardian Christmas Tea is presented by the Friends of Fulford Place Association.

Celebrate Christmas at the Cabin
A group tour package at Uncle Tom's Cabin Historic Site

November 26 to December 14, 2007

Experience an uplifting and joyous Christmas celebration this season at Uncle Tom's Cabin Historic Site in Dresden, Ontario. This package includes a guided tour of Uncle Tom's Cabin Historic Site, a sermonette delivered by a local minister and singing of old spirituals sung by freedom-seekers heading north. The program culminates with a Christmas banquet hosted by First Regular Baptist Church, a Black congregational church founded in 1857.

Built on the site of the Black settlement that fugitive slave and abolitionist Reverend Josiah Henson helped found in 1841, Uncle Tom's Cabin Historic Site preserves the settlement where Henson lived.

To book a group tour package, call 519-683-2978 or e-mail utchs@heritagetrust.on.ca. For more information, visit www.uncletomscabin.org.