



Newsletter of the York Centre for Applied Sustainability

USES OF GIS IN THE EASTERN GEORGIAN BAY REGION

John Sorrell, York University; Paul Zorn, Parks Canada

The difference between “sustainable human use,” as opposed to just “human use,” implies limits. The concept of sustainability acknowledges and incorporates the integral relationship between long-term economic viability and environmental health. This same concept of sustainable development has been formally embraced by the Eastern Georgian Bay Community through a vision articulated in a 1996 paper entitled: “The Littoral.” As a result of the Littoral paper, the Greater Bay Area (GBA) Foundation, which represents 24 resident associations and 5,000 families on the eastern and northern shores of Georgian Bay, proposes to use a biosphere reserve as the mechanism by which this vision is to be achieved.

The biosphere reserve model can be a powerful approach to facilitating sustainability. A biosphere reserve is an international designation recognized by UNESCO’s Man and the Biosphere (MAB) Program. They are nominated by national governments, in Canada’s case the Canadian Biosphere Reserve Association (CBRA), and must meet a minimal set of conditions before being admitted into the global network of biosphere reserves. These conditions relate to the MAB program’s mandate of establishing a series of functional sites demonstrating regional sustainable development in practice. To meet these conditions each biosphere reserve must fulfill three basic functions:

1. a conservation function - to contribute to the conservation of landscapes, ecosystems, species and genetic variation;
2. a development function - to foster economic and human development which is socio-culturally and

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REAL OPTIONS FOR ACTION: TRANSPORTATION AND CLIMATE CHANGE

Catherine O’Brien

CP Post-doctoral Fellow in Sustainable Transportation

It has been two and a half years since Canada, along with many other countries, negotiated the Kyoto Protocol under the United Nations Framework Convention on Climate Change. If Canada chooses to ratify the Protocol we would be committed to reduce greenhouse gas emissions (GHGs) by six per cent over 1990 levels during the five-year period from 2008-2012. In order to determine how this might happen the federal government has established an assortment of Climate Change Tables to develop potential options.

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DIRECTOR'S NICHE

David Bell

The YCAS mission is to promote the application of sustainability principles in the public sector, the private sector, the civil sector, and in education. Established in 1996, the York Centre for Applied Sustainability inherited the “legacy” (equipment, publications, resource centre) of the Ontario Round Table on Environment and Economy (ORTEE) whose mandate was not renewed by the Harris government.

The YCAS mission implies a huge agenda, especially considering our focus. Unlike the Ontario Round Table on Environment and Economy, which worked only at the local and provincial level, YCAS’ scope is not geographically limited. In the few years since its founding, YCAS has undertaken relevant work at all levels, from the local to the international. The first major **international** YCAS project was to review the IDRC-IUCN project “Monitoring and Assessing Progress Toward Sustainability,” which involved field work in Columbia, Zimbabwe, and India.

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ARE THOSE OF THE WRITERS AND DO NOT
NECESSARILY REPRESENT THE VIEWS OF
THE EDITOR OR OF THE FELLOWS OF
THE YORK CENTRE FOR APPLIED
SUSTAINABILITY.*



At the **local** level, YCAS was recently awarded a \$750,000 SSHRC grant under the new Community-University Research Alliance (CURA) program for work on “Promoting Community Sustainability: Linking Research

with Action.” This exciting new initiative involves a partnership with the Environmental Studies Program of Innis College, and as such, represents the first major collaboration between York and the University of Toronto in the area of environment and sustainability. The CURA program itself is innovative: it encourages (in fact requires) universities to reach out to the local communities. Our program involves a further partnership with the Canadian Institute for Environmental Law and Policy (CIELAP), Toronto Environmental Alliance (TEA) and the City of Toronto. There is also support for nine community-based sustainability projects that are mutually complementary, and that will benefit from the synergies we hope to create among them. For more information please see SSHRC’s Press Release located at <http://www.sshrc.ca/english/resnews/pressreleases/curawinnersback.html>.

YCAS has also undertaken work at the **provincial** and **federal** level. Earlier this year a YCAS research team headed by Faculty of Environmental Studies’ Dean Peter Victor prepared a report for the Environmental Commissioner of Ontario regarding the establishment of a multiple stakeholder Advisory Committee for the Commissioner (ECO-MAC) modeled in some respects after the federal advisory committee on which Peter sits. YCAS also prepared the “Sustainable Development Concept Paper” for the federal government’s inter-departmental research initiative on sustainable development. This paper received considerable attention from policy-makers in many different departments of the federal government, and led

THE YCAS MISSION

The mission of YCAS is to promote the application of sustainability principles and practices throughout society, including in the public sector, the private sector, the civil sector, and in education.

to an invitation to present a paper on “Innovation and Sustainability” to the federal Policy Conference last November. (policyresearch.schoolnet.ca/sustainability/concept%20paper-e.htm)

YCAS is also involved in work in the **private sector** through my membership on the core faculty of the Sustainable Enterprise Academy (SEA), a new executive development initiative directed by Brian Kelly and housed in the Schulich School of Business. SEA will present a series of weeklong seminars for senior decision-makers primarily from the private sector but also involving **public** and **civil sector** leaders. The first of this series entitled “Sustainability and Profitability” will run from October 16-20, 2000. The Spring session will be from May 14-18, 2001.

Finally, YCAS is active in promoting **sustainability education** at all levels. Primary and secondary sustainability education are the focus of the work of Learning for a Sustainable Future, profiled in the article Pam Schwartzberg prepared for this issue of YCAS News. In addition, I served as co-chair of the Education and Awareness Working Group of the Toronto Environmental Task Force, whose magnificent report was unanimously endorsed by Toronto City Council on April 12, 2000. The report contains over 60 recommendations that will transform the governance of the City of Toronto and ensure that sustainability is a core principle embedded in all policies and practices. (www.city.toronto.on.ca/council/awareness.htm)

Sustainability must begin at home. Following from the very successful YCAS workshop last April on “Sustainability on the Campus” President Lorna Marsden established a President’s Task Force on Sustainability chaired by Peter Victor. The Task Force will be looking not only at the operations of York’s Physical Plant and grounds maintenance practices, but also at the implications for curriculum and pedagogy of a commitment to sustainability — a fitting exercise for the first year of the new century. Stay tuned!

In pursuing its mission, YCAS is committed to taking advantage where appropriate of the most advanced forms of Information and Communication Technology (ICT). We have recently redesigned our website, which now features interactive capabilities and also allows easy access to the series of 12 one-hour radio broadcasts I prepared for Open College on “Sustainability: Canadian and Global Views.” Robert Paris has written an article highlighting some of the features of the new website. Please visit it at www.yorku.ca/ycas and give us your feedback and suggestions. Also included in this issue is an article by John Sorrell, who

works with Dr. Grant Sheng in the YCAS Applied Technology Group, on innovative applications of GIS on Land Use Zoning in the Eastern Georgian Bay Region where a biosphere reserve has been nominated.

The YCAS Canadian Pacific Post-doctoral Fellow, Catherine O’Brien, has continued to develop her unique emphasis on children and sustainable transportation, which caught the attention of Tony Clement during his brief tenure as Ontario’s Minister of the Environment. Mr. Clement helped arrange a grant of \$30,000 from MOE in support of Dr. O’Brien’s work, some of which she outlines in her article.

The work of YCAS is fuelled by the many students, faculty, and senior fellows whose enthusiasm and ideas provide a wonderful source of sustainable energy for the centre. This issue of YCAS News was made possible through the work of the graduate assistant who served as Editor: Herb vanden Dool. In addition to being editor, Herb worked on the Vital Signs Project of the Toronto Community Foundation that YCAS has taken on in collaboration with the University of Toronto and Ryerson Polytechnic University. Herb also helped to bring YCAS to the awareness of Bikeshare, an exciting new program of sustainable transportation in Toronto. Todd Parsons works with Herb at the Community Bicycle Network to help make Bikeshare a reality.

All YCAS activities depend for their effectiveness on the excellent staff support provided, thanks to Dean Peter Victor and Executive Officer Alys Reppert, from the Faculty of Environmental Studies. In particular I want to acknowledge Dianne Zecchino’s administrative contributions and Carol Zanussi’s work on budgets and invoices.

In closing, let me extend deepest gratitude, personally and on behalf of all those associated with YCAS, to Dr. Mary Bernard. Mary has been YCAS’ most stalwart and significant supporter from its earliest conception. Without her tireless efforts in preparing the original proposal for the centre and drafting countless funding and research documents, YCAS would not exist. Mary is leaving York to take up a senior position as Director of Research for Royal Roads University in Victoria. We salute her and wish her every success. □

David Bell, the director of YCAS, is a professor in Environmental Studies and Political Science at York University. He is also a jazz bassist who studied many years ago with Ray Brown at Oscar Peterson’s Advanced School of Contemporary Music!

Transportation is “the single largest source of GHG in Canada, accounting for 25 per cent of the total in 1997. GHG emissions from transportation are expected to exceed 1990 levels by 32 per cent in 2010 and 53 per cent by 2020, if current trends continue” (Transportation and Climate Change: Options for Action, 1999). Therefore, the Transportation Climate Change Table had a very daunting task of determining how to reduce emissions. The table produced an options document which outlines the **most promising** measures, **promising** measures, **less promising** measures, and **unlikely** measures. These have been applied to passenger travel, road infrastructure, road vehicles, freight and off-road transportation.

Passenger travel “accounts for the bulk of transportation GHG emissions” and is an especially challenging sector because reducing emissions will involve changing the behaviour of drivers. The **most promising** measures which the Option Paper identifies are “largely voluntary and aimed at increasing public awareness and changing travel behaviour, primarily in urban areas.” The measures offered are: tax-exempt transit pass, transit smart card, telecommuting, driver education, car sharing and two intercity measures - increased aviation efficiency and a code of practice for ferries.

Dr. O’Brien’s research at YCAS has focussed on opportunities for changing travel behaviour through programs which influence children and their parents. She has presented the Transportation Climate Change Table with another **most promising** measure to consider. School car trip reduction programs such as Greenest City’s Active and Safe Routes to School and the Way to Go! Schools Program in British Columbia are effectively changing the travel patterns of children and their parents.

These programs build on the concerns of parents and educators regarding the health and safety of children at school drop-off and pick up times. The chaos and aggressive driving at these times has led one BC parent to coin a new term, “Parent Drop-Off Rage.” These school car trip reduction programs help students and parents to identify safe routes to school and encourage opportunities for children to walk, cycle or “blade” to school, accompanied by an adult.

Results from the Way to Go! Program are very impressive. Many schools report a 50 per cent increase in the number

of children walking. One school reduced the number of cars arriving to drop children off from 150 to just 4. At this time there is anecdotal evidence that parents who participate in these programs also change their other travel patterns. They are motivated to consider additional trip reduction strategies. The “Way to Go!” Kit has been distributed to over half the schools in British Columbia.

Greenest City’s Active and Safe Routes to School program is gaining momentum and is poised to expand throughout Ontario. One elementary school which is participating in the program has challenged its students to “walk across Canada while walking to school.” The distance that students live from their school is added to a total when they walk to school. Their progress is charted on a map of Canada. Students are encouraged to write down their reasons for walking to school on a blank piece of paper shaped like a footprint. One student wrote, “We walk to school because we can stop and say hello to a kitty and pup and sing along with the birds.”



Active and Safe Routes to School represents an effective option which is working NOW and has the potential to expand throughout the country. In addition to changing travel behaviour, it has the capacity to educate children, teachers and parents about the need to reduce car travel. □

*For information about Active and Safe Routes to School
contact: Jacky Kennedy at Greenest City: Ph: (416) 488-7263;
Fax: (416) 488-2296; Email: tgc@web.net;
Photo: www.city.toronto.ca*

LEARNING FOR A SUSTAINABLE FUTURE

Pam Schwartzberg, Director, LSF Ontario

Learning for a Sustainable Future (LSF) is a unique, non-government, Canadian organization founded in 1991 to promote sustainable development education throughout the formal school systems in Canada. In Ontario, Learning for a Sustainable Future - Ontario works in collaboration with the York Centre for Applied Sustainability to deliver sustainability programs to teachers and students from kindergarten to grade 12. Dr. David Bell, Director of YCAS, is Chair of the LSF Ontario Advisory Committee.

LSF's vision ...is a sustainable future in which protection of the natural environment, economic prosperity and social justice are pursued simultaneously to ensure the quality of life of the present generation and to secure the well-being of generations to come.

This builds on the recommendations contained in Agenda 21, the global plan of action of the United Nations Conference on the Environment and Sustainable Development, held in Rio de Janeiro in 1992. Agenda 21 stresses the role of education in building the knowledge, skills and values required for a sustainable future.

LSF's vision ...is a sustainable future in which protection of the natural environment, economic prosperity and social justice are pursued simultaneously to ensure the quality of life of the present generation and to secure the well-being of generations to come.

Sustainability education implies:

- a greater understanding of the interdependence of economic, environmental and social issues;
- skills in systems thinking, consensus building and decision-making;
- the ability to identify unsustainable practices, find the causes and plan solutions.

LSF's Approach

LSF delivers a **strategic** approach to sustainability education that includes:

- policy and curriculum development;
- professional development;
- sustainability curriculum materials development; and
- capacity building.

LSF Ontario (LSFO) activities include:

Policy and Curriculum Development

LSFO worked with the Ontario Ministry of Education to integrate sustainable development education into the new Ontario Curriculum.

Professional Development Workshops

LSFO provides training workshops to educators through subject associations, school boards, the Ontario Teachers' Federation and affiliates, and faculties of education. Call LSFO at (416) 327-2149 for a catalogue of available workshops.

Sustainable Community Institutes

In cooperation with YCAS, LSF Ontario is hosting ten Professional Development Institutes across Ontario. The

Institutes will bring together teachers and students, with business and community leaders from 90 communities in a search conference to build awareness of sustainability and implement community action plans. Year 2000 Institutes are planned for London, Peterborough, Sudbury, Eganville and Toronto. For more information or to participate in any of these Institutes please call Elaine at (416) 327-2032.

The Hurley Island Project

The Hurley Island Project is a grade 12, two-credit internet course, focusing on Environmental Sustainability and Internet Technology. The Project is being designed and delivered by Learning for a Sustainable Future, in partnership with the Ontario

Ministry of Education - Independent Learning Centre (ILC), with support from IBM Canada and the University of British Columbia.

The project gathers students from each province and territory in Canada in the same virtual classroom to exchange views on their vision for Canada with regards to environmental sustainability in the new millennium. In this national course, students can appreciate the true universality of environmental issues, and the global nature of any proposed solutions. Students also learn about Internet technology, how to communicate effectively through it, and how to build knowledge with it.

The program is delivered entirely over the Internet. There are two on-line teachers, and 15 mentors from business, government, academia, and non-governmental organizations from across Canada that contribute their expertise and interact with students throughout the course. Next year, an additional Hurley Island course will be made available to link Ontario students with students in international schools. This new course will provide an innovative global dialogue on sustainability issues and solutions.

EXPO 2000

Learning for a Sustainable Future has received international recognition for its work in sustainable development education by being chosen as an international model project by the Expo 2000 authorities. Expo 2000 will take place in Hannover, Germany from June 1 - October 31, 2000. The EXPO 2000 theme is Humankind - Nature - Technology. LSF will participate by hosting an exhibit in

the Canadian Pavilion. The LSF display will showcase:

- the Educator's Virtual Library for a Sustainable Future, where classroom materials developed by LSF are posted for teachers and parents;
- the Hurley Island Project; and
- the Youth Magazine for a Sustainable Future, a teacher-monitored cyber-publication by and for young people, containing news and moderated chat groups on themes related to sustainability.

A key feature of the exhibit will be the integration of simultaneous comprehension software developed by Alis Technologies Inc. that will translate the website's content into English, French, German, Portuguese and Spanish to make it accessible to the four million visitors expected to view the LSF display over the five-month period. □

For more information on LSF please visit their website at www.schoolnet.ca/vp/learning or contact Pamela Schwartzberg, Director of the Ontario Program of LSF at (416) 327-2149, email: pams@yorku.ca or visit their offices at 119 McLaughlin College, York University.

A BIKESHARE PROJECT FOR TORONTO

Todd Parsons, Community Bicycle Network

There is a current jam in Toronto: Traffic congestion in the Greater Toronto Area and Hamilton-Wentworth is reportedly costing our economy \$2 billion a year. However, there is a bold vision: Mayor Mel Lastman has envisioned a "car-free" city core by the year 2011.

At the Community Bicycle Network (CBN) we have been working on a way to go. Community bike programs have become an integral part of public transportation in many European and American cities. The basic idea is that community bikes are available at "hubs" throughout the city where citizens and tourists utilize them for short trips alike. After usage, the bikes are returned to their pick-up point (or to any other hub) where they await the next cyclist. Many bike sharing initiatives, such as Portland's "Yellow Bikes," work with "recycled cycles." Bikes that were destined for landfill are collected, repaired and returned to the streets. At-risk youth, and the financially disadvantaged do much of the "re-cycling" work. This model has been imitated

successfully across the United States in Austin, Bellingham, Boulder, Denver, Fresno, Olympia and St. Paul.

The Community Bicycle Network's Community Bikeshare Project aims to build upon the successes of these programs to bring community bicycles to Toronto. Such a program would greatly improve the livability of our city, by encouraging residents and visitors alike to choose the most efficient, quiet and emissionless mode of transport available.

We have considerable experience in bike recycling and in community economic development. Our recently completed Mentoring Cycle program was a successful partnership with Youth Services Canada at Human Resources Development Canada (YSC- HRDC) to provide valuable, marketable skills to at-risk youth. Our vision is to work together with YSC- HRDC, the City of Toronto, the Toronto Atmospheric Fund, the private sector and other community groups to spearhead bike sharing and a bicycle culture in Toronto, simultaneously providing training and employment opportunities for young people.

Already we have received money from the Toronto Community Foundation to construct a recycling centre to build bikes for Bikeshare, and money from Ontario Power Generation (OPG) Corporation as a lead sponsor of Bikeshare for its startup. The money from OPG will go towards getting some hubs set up for the Grand Opening at the end of summer! In exchange OPG will have a lead spot in advertising on the bicycles and hubs. The goal is to build a sustainable transportation network for the city and also to widen the travel options for all income-earning people.

Together, the CBN is confident that we can take the next step forward in public transit and help make Toronto the first Canadian city to become a community bike city. □



*Please contact CBN at (416) 504-2918; email: cbn@connection.com for more information.
Photo: November 20, 1997 issue of The Austin Chronicle
Don't miss the launch of Bikeshare later this summer!*

**THE OUTDOORS IS WHAT YOU HAVE TO PASS
THROUGH FROM YOUR APARTMENT INTO A TAXICAB.**

- Fran Lebowitz

ecologically sustainable; and,

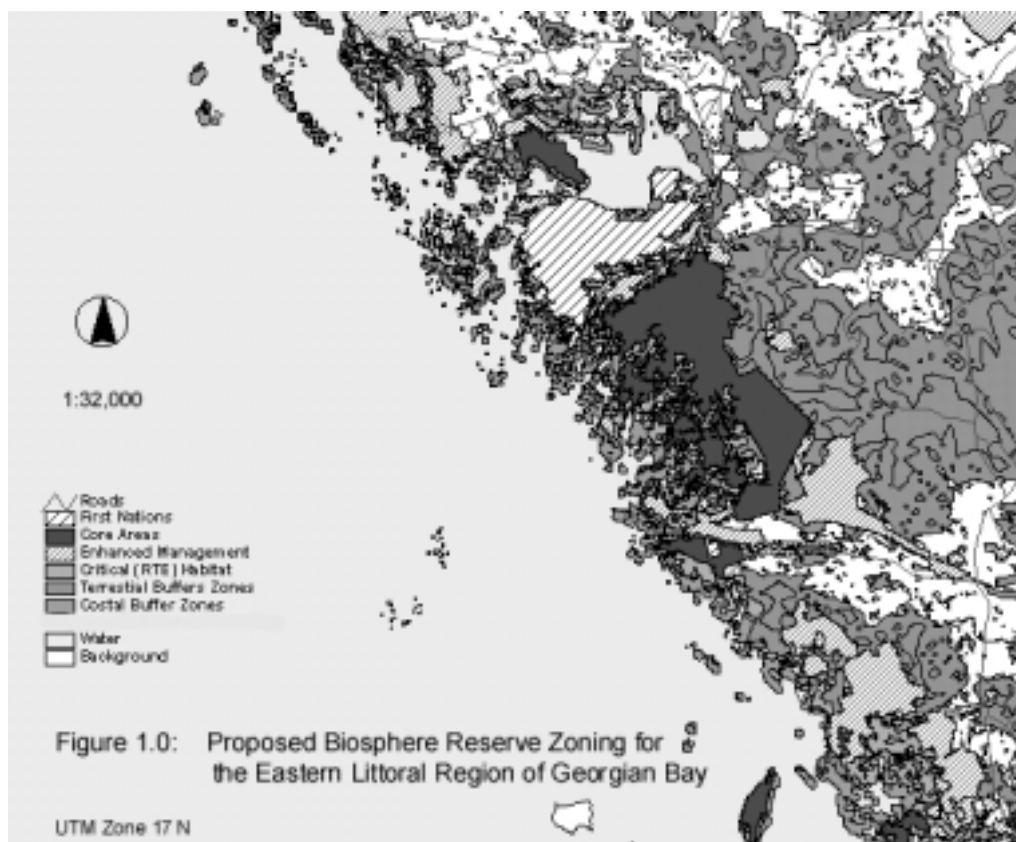
3. a logistic function - to provide support for research, monitoring, education and information exchange related to local, national and global issues of conservation and development.

In the biosphere reserve model these functions are implemented, in part, through a system of three land use zones: core areas, zones of cooperation and buffer zones. Core areas must be legally designated and devoted to long-term protection (i.e. existing protected areas). Zones of cooperation are those areas within a biosphere reserve where a full range of human activities is promoted in a sustainable manner. Finally, buffer zones are the intermediary zones that insulate the conservation values of core areas from the development activities of zones of cooperation.

A crucial requirement for this nomination submission and the public consultation strategy is to identify and display a range of spatially explicit land use zoning scenarios that could be considered by stakeholders. The development of these scenario maps requires the examination of the spatial distribution of biodiversity (i.e. taxonomic richness) across the landscape in the context of many non-biological (socio-economic) criteria. In this case, dominant habitat types of viable configuration and composition, as well as habitat suitability for rare, threatened or endangered (RTE) species were considered. This level of data integration is made possible through the use of GIS and statistical modeling technology.

The GIS analyses were directed at delineating significant habitat patches and wildlife corridors at a landscape scale. Incorporating a network of viable habitat patches and wildlife corridors is an essential part of long-term sustainability, especially in human settled landscapes. Patterns of habitat fragmentation due to human settlement processes can have severe effects on wildlife as some types

of development (e.g. roads) may create barriers to wildlife movement. These patterns of unfragmented habitat were added to 'landscape linkages' that together represent a level of inherent 'connectivity' of the eastern Georgian Bay region.



Connectivity is delineated through the identification of riparian areas, valley lands and relative low-lying areas. These criteria are derived from concepts of behavioural ecology and foraging theory suggesting that patterns of wildlife movement are influenced by "paths of least resistance" so that the energy spent in moving from one place to another does not outweigh the benefits derived from reaching their destination.

Further refinements to this landscape level approach were achieved by adding a series of robust statistical models that predict habitat suitability for the region's rare plants and animals. The addition of this step is often considered necessary as landscape scale (i.e. coarse filter) approaches alone can miss key habitat features for some species, especially those that are rare, sensitive or not highly associated with the vegetation characteristics identified through satellite imagery. Thus, this GIS application produced a series of probability surfaces derived from logistic regression models to predict the distribution of

critical habitats for some of the RTE species listed for the region. The species observation data used was provided by the Element Occurrence Database maintained by the Natural Heritage Information Centre (NHIC) in Peterborough, Ontario. This type of species-specific method used to determine habitat needs is sometimes referred to as a “fine filter” approach.

Finally, incorporating coastal islands and the greater archipelago into a regional conservation design network further strengthens any terrestrial-based conservation zoning strategy. Recreational and permanent human population pressures have crowded out significant portions of natural habitat in the coastal region. Therefore, the analysis was extended into land mass areas proximate to the eastern coastal areas of the Georgian Bay Region to account for boating activity that can place significant disturbance pressures on sensitive shorelines and fish spawning areas (see map, pg. 7).

Participation in the biosphere reserve program is completely voluntary. Biosphere reserves have no legislative basis so resource conservation and development decisions must be founded on cooperation among stakeholders. Parallel planning processes and management plans that are already in place throughout the region can be integrated into a consolidated framework of a larger regional biosphere reserve model. Effective communication is paramount in the biosphere reserve nomination process and articulating zoning criteria spatially is critical to consultation processes.

If properly implemented the biosphere reserve model can be a powerful approach to facilitating sustainability. A properly zoned biosphere reserve will stress the conservation function in ecologically significant areas so that benefits such as clean water, habitat for wildlife, and a healthy environment can be achieved while enabling appropriate development functions in other parts of the region. □

John Sorrell is a Sessional Course Director in the Faculty of Environmental Studies at York University. He is also the principal owner of Terra-Plex Innovations (www.terra-plex.com) - an information technology company dedicated to the support and advancement of applied sustainability in Canadian initiatives.

VITAL SIGNS: SIGNPOSTS TO SUSTAINABLE LIVING

Herb vanden Dool, Graduate Assistant for YCAS

At the beginning of 1998, the Toronto Community Foundation along with their stakeholders in the City of Toronto set out to develop social indicators that would help point the way to sustainable and healthy living in the city. YCAS, along with the University of Toronto and Ryerson Polytechnic University, was called upon to critique this process which came to be known as the Vital Signs Project.

The Toronto Community Foundation mentioned that “[i]n a medical check-up, no one indicator can give a complete reading of a person’s total well-being. In the same way, the city’s well-being depends on many different elements. Taking Toronto’s Vital Signs will come up with indicators for how we live and work, help each other, get around and participate in city life.

Just as with personal health, the city’s health needs to be monitored regularly. An annual report or “check-up” will point out differences from year to year, giving us warnings or encouragement. Taking Toronto’s Vital Signs will enable residents, businesses, agencies and community groups to have a better understanding of changing conditions that are critical to the future of Toronto.

At Taking Toronto’s Vital Signs we believe that those who are involved in city life can best identify what makes Toronto a good place to live, work, and put down roots.” (www.torontovitalsigns.com)

The participation of the universities in the Vital Signs Project was meant to give aid to this community-oriented development. In addition to being aware of the “spirit” of the whole project, YCAS looked at the indicators that pertained to the social realm and how well they accounted for what was supposed to be measured.

Overall the Vital Signs Project had some discreet goals that TCF and the stakeholders wanted accomplished:

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SUSTAINABILITY@YORK

David Bell and Herb vanden Dool

“Our goal as educators is to present a sense of hopefulness to students, and the competence to act on that hope,” comments David Orr on a radical environmentally-sensitive building process at the Oberlin College campus. “That’s different from wishful thinking – ignoring problems or assuming that somehow technology or some mythical ‘they’ is going to figure it out. *We* will have to figure it out. A whole set of diverse disciplines, for example, came together in the building project, suggesting a very different curriculum and pedagogy.”

The hope of members of the York University community has been brought forth through a two-day conference at York University in April, 1999 on sustainability as it relates to York University and its vast campus space. Why are we concerned with sustainability on campus? David Bell, the director of YCAS at York University, says we are “[l]ooking at how we can improve life on the campus by viewing the challenges and opportunities through a broad sustainability lens.” It was not only a matter of saving and making money on sustainable projects but also enhancing the curriculum, the quality of working environments and the quality of the learning environment. In addition, the campus can provide an example of environmental stewardship. One could say York could be the beacon of hope in sustainability to the community-at-large.

The participants at the conference recognized that sustainability needed a strong education and awareness component in the curriculum of students and also for the greater York community. One suggestion was to measure the Ecological Footprint of the campus. The Ecological Footprint is an education tool that can give a clear idea of the stress that the campus puts on the natural environment.



**UNLESS someone like you
cares a whole awful lot,
nothing is going to get better.
It's not.
THE LORAX**

We reduce things to mere Nature in order that we may "conquer" them. We are always conquering Nature, because "Nature" is the name for what we have, to some extent, conquered. – C.S. LEWIS

If people are going to focus on sustainability they have to be able to measure it. In order to do this the participants understood that indicators of health, ecological, social and economic aspects had to be developed and measured. York could then see how well it is doing over time and in comparison to other campuses across Canada and the USA as well.



On the second day the participants looked at how they could put such a process in place. Various recommendations suggested a sustainability working group with various stakeholders – faculties, unions, facilities and students – and

communication through curriculum changes and newsletters.

Ultimately, sustainability has to look at the actual infrastructure. So, as the last item, the conference focused on how one could implement a sensible plan for infrastructure. Exciting opportunities sprung up among the participants. We should look at a transportation plan: develop a green corridor to campus with alternative means of transportation to campus by transit, subway or bicycle. In order to have a coherent plan for infrastructure, York would need to have total cost assessment for alternative servicing of York University’s needs. Alternative energy sources would be one aspect that would help York meet a reduction in greenhouse gases.

The Sustainability@York conference has helped to start thinking on developing a “very different curriculum and pedagogy” that could lead to some significant changes to York University in the future. In December 1999, York University established The President’s Task Force on Sustainability chaired by FES Dean Peter Victor and just published their Progress Report. □

This article is taken from the Sustainability @ York Conference proceedings. The Task Force will have an interactive website possibly by June. In the mean time they can be reached at sustain@yorku.ca. Comments are welcomed.

THE TALLOIRES DECLARATION

University Leaders for a Sustainable Future
(www.ulsf.org/about/tallo.html)

We, the presidents, rectors, and vice-chancellors of universities from all regions of the world are deeply concerned about the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources.

Local, regional, and global air and water pollution; accumulation and distribution of toxic wastes; destruction and depletion of forests, soil and water; depletion of the ozone layer and emission of “green house” gases threaten the survival of humans and thousands of other living species, the integrity of the earth and its biodiversity, the security of nations, and the heritage of future generations. These environmental changes are caused by inequitable and unsustainable production and consumption patterns that aggravate poverty in many regions of the world.

We believe that urgent actions are needed to address these fundamental problems and reverse the trends. Stabilization of human population, adoption of environmentally sound industrial and agricultural technologies, reforestation and ecological restoration are crucial elements in creating an equitable and sustainable future for all humankind in harmony with nature.

Universities have a major role in the education, research, policy formation, and information exchange necessary to make these goals possible. Thus, university leaders must initiate and support mobilization of internal and external resources so that their institutions respond to this urgent challenge.

We, therefore, agree to take the following actions:

1. Use every opportunity to raise public, government, industry, foundation, and university awareness by openly addressing the urgent need to move toward an environmentally sustainable future.
2. Encourage all universities to engage in education, research, policy formation, and information exchange on population, environment, and development to move toward global sustainability.

**A TREE IS A TREE - HOW MANY MORE DO
YOU NEED TO LOOK AT?**

- RONALD REAGAN

***These environmental changes are
caused by inequitable and unsustainable
production and consumption patterns
that aggravate poverty in many regions
of the world.***

3. Establish programs to produce expertise in environmental management, sustainable economic development, population, and related fields to ensure that all university graduates are environmentally literate, and have the awareness and understanding to be ecologically responsible citizens.

4. Create programs to develop the capability of university faculty to teach environmental literacy to all undergraduate, graduate, and professional students.

5. Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.

6. Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development. Expand work with community and non-governmental organizations to assist in finding solutions to environmental problems.

7. Convene university faculty and administrators with environmental practitioners to develop curricula, research initiatives, operations systems, and outreach activities to support an environmentally sustainable future.

8. Establish partnerships with primary and secondary schools to help develop the capacity for interdisciplinary teaching about population, environment, and sustainable development.

9. Work with national and international organizations to promote a worldwide university effort toward a sustainable future.

10. Establish a Secretariat and a steering committee to continue this momentum, and to inform and support each other's efforts in carrying out this declaration. □

YCAS WEBSITE

Robert Paris, Graduate Assistant, Environmental Studies

YCAS has a new website and address! Make sure to visit www.yorku.ca/ycas to see our new look. The redevelopment of the YCAS site was the team effort of YCAS members, and faculty and students of York's Faculty of Environmental Studies.

The YCAS Website Project team first identified the site's intended audience and priorities. From the site mission statement we developed this statement:

The mission of the YCAS website is to facilitate the dissemination of information on applied sustainability to the public, private, civil and academic sectors, at local national and international levels. The site's express purpose, showcasing the centre's projects and research, will enable the site to raise the profile of YCAS and encourage partnership building.

The new site has a dynamic home page that contains up-to-date news and information about the centre's latest activities. Also on the home page, the RealAudio Sustainability series hosted by YCAS' own David Bell is prominently showcased. The remainder of the site's content is divided into three functional sections and seven thematic areas. Visitors to the site will be able to view the centre's newsletters and log onto electronic classroom courses. As well, there is an intranet for YCAS members for internal communication.

In addition to a description of YCAS activities, projects, and personnel, the revised site includes two searchable databases. The first contains publications by YCAS members and faculty, and students of FES. This database can be searched by author, keyword or title. The second database contains links to websites that have been determined to have an important relation to the centre's work. This database can be searched by site name, keyword or location.

If you have any suggestions for the site, either publications or links that you would like to have put into the respective databases, email us. Our contact information is found on the site. Make sure to visit us soon and don't forget to bookmark the site! We hope you enjoy it. □

Interested in seeing how your bioregion is doing in terms of environmental protection and sustainability? Check out Scorecard. (www.scorecard.org)

SIX PRINCIPLES OF SUSTAINABILITY

Anticipating and preventing problems are better than trying to react and fix them after they occur;

Accounting must reflect all long-term environmental and economic costs, not just those of the current market;

The best decisions are based on sound, accurate and up-to-date information;

We must live off the interest our environment provides and not destroy its capital base;

The quality of social and economic development must take precedence over quantity; and

We must respect nature and the rights of future generations.

(ORTEE - Ontario Round Table on Environment and Economy)

TORONTO VITAL SIGNS... continued from page 8

"On its own, the information gathered through Taking Toronto's Vital Signs won't create a vibrant city, but it will:

- provide a common knowledge base for all;
- increase our awareness of how the decisions we make affect other aspects of city life;
- prompt dialogue among different groups about the present conditions and future of Toronto; and
- mobilize action where it is needed.

The information from Taking Toronto's Vital Signs may also be used "by civic leaders to measure the impact of existing policies and programs; help funding agencies to set priorities; assist community groups and agencies to plan programs and make the best use of resources; aid business leaders in identifying new opportunities; and help groups and policy-makers to determine new directions" (from website). YCAS faculty members working on the Vital Signs project include David Bell, Bryn Greer-Wootten, and Grant Sheng. □

Herb vanden Dool worked with YCAS on the Vital Signs Project. You can look it up at www.torontovitalsigns.com and give your own input on the indicator project.

MEMBERS OF THE YCAS ADVISORY BOARD

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Peter Victor Dean, Faculty of Environmental Studies

David Wheeler Chair and Director, Haub Program in Business and Sustainability

Stepan Wood Assistant Professor of Law

Note: Representatives of **BESST**, **GESSA**, and **PhESSA** are invited to attend Board meetings.

YCAS HAS A NEW WEBSITE!

YCAS has updated its website and it looks very attractive.
Explore it and even download the newsletters from www.yorku.ca/ycas.

Please contact us if you have any suggestions or announcements for the website (ycas@yorku.ca). Thank you to Tools of Change for disseminating the new website. Check us out on their site as well! (www.toolsofchange.com)