

# McGILL SCHOOL OF ENVIRONMENT

*edition*



By Anthi Mimidakis

I became interested in the library project during a speech by Dean Chandra Madramootoo in which he spoke of the referendum to decide on student contributions to a Macdonald Campus library fund. My interest was in the materials to be used for the renovations and the new extension. Erica Burnham, the head librarian at Mac, expressed great interest in student participation and green initiatives and encouraged us to participate as much as possible.

At a meeting with Dean Madramootoo and the library administration, Amélie Roy and I offered to help achieve the incorporation of green materials into the building project. Since then, myself and seven other MSE and Mac students, under the direction of Erica Burnham and Professor Mark Curtis, researched companies whose products meet the criteria for sustainability.



Pete Barry

Top Right: Counterclockwise Marie-Eve Lemieux, Anthi Mimidakis, and Johanne Philippe

How companies are selected for recommendation:

**Location:** The shortest possible distance for transportation translates into lower shipping costs and a reduced cost to the environment. We aim for products sold and manufactured in Quebec (with some exceptions).

**Sustainable Products and Manufacturing Processes:** Companies who practice sustainability in their production methods and their finished products are given greater consideration than companies solely focused on the end product.

**Exceptions:** Many suggestions for companies and products have been made. While some are closer to meeting our criteria than others, all are, to some extent, certified by an environmental/ecological organization. We aimed to provide as large a selection as possible, in order to accommodate the architect's designs.

**Areas of Interest:** Furniture, carpeting, paint, energy efficient lighting, bathroom fixtures, light and temperature sensors, construction materials including windows, insulation, etc., kitchen countertops, tiles, etc., and so on.

Our goal is to make the library as healthy and environmentally sound as possible by incorporating sustainable materials in it's construction and design. Unfortunately, due to our late involvement in the project, we were unable to incorporate any green construction materials into the project. We still see this as a stepping stone towards a healthier, more sustainable campus and hope that sustainability initiatives will be taken in future renovation and construction projects. The extensive research we have done will also be useful to the Mac Sustainable Project on their future projects.

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## Message from the Director

by Nigel Roulet

I returned to the Directorship of the McGill School of Environment after my sabbatical, which ended in 2005. Once again, Professor Marilyn Scott did an exceptional job as acting director during my absence. My sabbatical was fantastic; I return rejuvenated, excited and ready to roll up my sleeves to keep the MSE ball rolling. As has been the case for a number of years, our program is very strong. On the downtown campus our major period of growth appears to be coming to an end and we are beginning to reach steady numbers of around 200 students taking MSE BA and BSc programs. Our growth on the Macdonald Campus, however, has been extraordinary, and we feel we have only reached a small fraction of our potential with our partners in the Faculty of Agricultural and Environmental Sciences.

Our life at the MSE is, as always, exciting. We have two new deans working with us: Dean Chandra Madrammootoo from the Faculty of Agricultural and Environmental Science, and Dean Martin Grant from the Faculty of Science. Professor John Galaty, Acting Dean of Arts, has been a great help steering the MSE ship as the presiding Dean of the MSE. This past year saw the arrival of Professor Elena Bennett (see article on page 6). Elena comes to us from the University of Wisconsin. She is unique – during her interview I remember her describing herself as a terrestrial (meaning land) limnologist (meaning someone who studies lakes). This world

view is exactly what the MSE is about—looking beyond traditional boundaries and examining those critical elements of the environment that transcend them.

This year we welcome a new arrival, Professor Ismael Vaccaro. Ismael has just recently received his PhD in Environmental Anthropology from the University of Washington.

Last year also saw the arrival of Shannon Scott, our new Administrative Officer, who will be with us while Katherine Scott is off doing her MA in Anthropology.

The MSE hosted some very exciting events. Once again the annual environmental lecture was a huge. Bruce Mau, from the Institute without Boundaries and creator of *Massive Change* talked on the future of environmental design. We have also co-sponsored several other events, such as the Mini-Beatty lecture, “How Did Humans First Alter Climate?” by Dr. William Ruddiman, the author of *Plows, Plagues, and Petroleum: How Humans Took Control of Climate*. We plan to host many more.

Stay with us as we continue to grow and succeed.



Nigel Roulet - May 14, 2005 - Fluxnet Canada Carbon Short Course in a spruce bog in Prince Albert National

## Mac Sustainable Project

By Marie-Eve Lemieux

During the Fall semester of 2004, I attended a conference on climate change and campus initiatives, held in Vermont. At the time, I was the environmental representative on the student council, and I returned from the conference with the idea of assessing Macdonald Campus sustainability and implementing realistic changes within the Faculty of Agricultural and Environmental Sciences.

Since that time, more than 11 MSE students have been collecting data for the **Mac Sustainable Project** in the following five areas: water, land, air, energy and materials. The project is based on the Campus Sustainability Assessment Framework (CSAF). The CSAF was created as a master's project by Lindsay Cole for the Sierra Youth Coalition, the youth branch of the Sierra Club of Canada.

The group is currently finishing the **Ecosystem Assessment** of the Macdonald Campus and a working document for future students and guidelines for the administration are expected to be published in April. Several innovative recommendations will also be presented. The students involved focused on ways to make changes, always keeping in mind the existing facilities on the Macdonald Campus and the restricted budget. Their primary goal is to introduce this new approach to the administration, the staff, and the students.

The students of the **Mac Sustainable Project** would like Macdonald Campus to be a Canadian leader in sustainability.

## Macdonald Campus Centenary Celebrations



Our Macdonald Centenary celebrations will begin during the orientation period for new students, in September 2006 and will continue throughout the year, ending at Homecoming weekend, in the Fall of 2007.

This will be an exciting period in our history. Not only will we celebrate the Centenary, but we will also have a chance to reflect on the glorious and rich history of Macdonald, to dream of the future and what the next 100 years may hold.

Macdonald is truly an outstanding educational institution. Our teaching and research are internationally recognized, and we are well poised to be even greater in the future.

Let's celebrate our Centenary with gusto and pride!

Le coup d'envoi des célébrations du Centenaire de campus Macdonald sera donné lors de la séance d'accueil pour les nouveaux étudiants, en septembre 2006, et les célébrations se poursuivront jusqu'aux Retrouvailles de la session d'automne 2007. Ce sera un moment mémorable de notre histoire. Non seulement nous célébrerons le Centenaire, mais nous profiterons aussi de l'occasion pour nous remémorer la riche et glorieuse histoire du campus Macdonald et pour imaginer ce que nous réserve les 100 prochaines années.

Le campus Macdonald est un établissement d'enseignement exceptionnel. Notre enseignement et nos recherches sont reconnus à l'échelle internationale et nous sommes en excellente position pour faire encore mieux à l'avenir. Célébrons le Centenaire avec plaisir et fierté!

Chandra A. Madramootoo

Dean, Faculty of Agricultural and Environmental Sciences  
School of Dietetics and Human Nutrition

## High School Outreach

By Johanne Philippe

A campus and community clean-up was organized in November 2005, at Macdonald Campus. While cleaning up around the Macdonald High School, Johanne Philippe, initiator of the project, happened to meet the Vice-Principal of the school. She suggested that a team of students might make presentations on the environment to the high school students.

In March Mac students of the new High School Outreach project on Macdonald Campus made presentations to grade 7 and 8 science classes on the topics of water and waste reduction from local and international perspectives. This was followed up by a meeting with the coordinator of the McGill project, "When You Teach, You Learn", currently based at the downtown campus (see page 4 for a description). Johanne and her group are glad to report that an Macdonald branch of this association will be established.

"When You Teach, You Learn" is an excellent way to reach our next generation and sensitize them about current and future challenges our society is facing. Our committee wants to give them the tools they need to make a difference and, most of all, have them realize that each and every individual counts in making a difference.

## *New Career Centre at the MSE...*

by Stephanie Delorme

**M**cGill University is constantly refining its services to adapt to a changing society. Its priority is to offer the training that students need in order to become the professionals of tomorrow. Although quality of education is at the core of the McGill School of Environment's purpose, helping students build a rewarding career is an objective that we take seriously.

In October 2005, the MSE initiated a new project to present students with options by trying to answer the question, "What can I do with a degree in Environment?" Employers now regularly come to the MSE to participate in EnviroBridge Roundtables, to talk about their jobs and practical experience. In addition to providing information about the reality of a particular sector, the employers have a rare opportunity to speak directly with a motivated pool of students. New connections are formed and some result in a summer job, a full-time job, or an internship. This informal networking is very constructive for all participants.

Students do not always know what they want to do after graduation. The McGill School of Environment Career Centre is here to help them and to guide them through their job research. Building bridges between the MSE, students and employers can set students on a promising career path.

<http://www.mcgill.ca/mse/employment/>



## *Student Resources/Initiatives - Get Involved!*

<http://www.mcgill.ca/mse/studentinitiatives/>



When You Teach You Learn, is a project run by Education graduate students (one of whom is a former MSE student that arranges to have MSE students visit local Montreal high schools to teach about environmental science and issues.



Learn about the Organic Food Coop, a student run organization that buys and distributes organic produce at cost.



The McGill Urban Community Sustainment (MUCS) project is a student run project that explores ways of living sustainably in an urban setting.



Gorilla Composting is a pilot project that aims to bring campus-wide composting to McGill University. Students and staff can drop off organic waste at central pick-up points. They also need volunteers.



The Sustainable McGill Project is a student-led initiative which works towards the goal of creating a more environmentally conscious and socially just campus community, through work with students, staff, faculty and administration.

The group finished their Ecosystem Sustainability of the McGill Campus in January 2006 and are currently working on initiatives such as a greenhouse gas reduction campaign and research on the 'people-system' of the McGill Campus, among many other projects.

# Massive Change

In February 2006, the organizers of the **MSE** lecture series were proud to present **Bruce Mau**, one of Canada's leading public intellectuals and an internationally recognized expert on innovation and creativity. Mau willfully ignores all professional boundaries, expanding the concept of design into unfamiliar intellectual territory. Mau is the creative director of Bruce Mau Design and founder of the Institute without Boundaries (IwB). The IwB, formed out of the conviction that the future demands a new breed of designer became the catalyst for Massive Change, an ambitious, multi-venue exhibition on the possibilities of design culture. Massive Change was commissioned and organized by the Vancouver Art Gallery.

In his presentation at McGill, Mau drew on the ideas and images from his acclaimed exhibition. As well as looking to the future of environmental design, it explores the ways in which design is already improving the quality of life for millions of people and ways this revolution might be extended to the entire human race.

What is **Massive Change**? Mau explains it as a celebration of our global capacities, but also a cautious look at our limitations. It encompasses the utopian and dystopian possibilities of technologies that man is able to use to manipulate nature itself. Massive Change explores paradigm-shifting events, ideas, and people, investigating the capacities and ethical dilemmas of design in manufacturing, transportation, urbanism, warfare, health, living, energy, markets, materials, the image and information. We need to evolve a global society that has the capacity to direct and control the emerging forces in order to achieve the most positive outcome.



Bruce Mau



Wealth and Politics Gallery, Massive Change Exhibition, courtesy of Bruce Mau Design.

**We must ask ourselves: Now that we can do anything what will we do?**

## An Incomplete Manifesto for Growth

Written in 1998, the Incomplete Manifesto is an articulation of statements that exemplify Bruce Mau's beliefs, motivations and strategies. It also articulates how the Bruce Mau Design studio works. Here are the first five.

- 1. Allow events to change you.** You have to be willing to grow. Growth is different from something that happens to you. You produce it. You live it. The prerequisites for growth: the openness to experience events and the willingness to be changed by them.
- 2. Forget about good.** Good is a known quantity. Good is what we all agree on. Growth is not necessarily good. Growth is an exploration of unlit recesses that may or may not yield to our research. As long as you stick to good you'll never have real growth.
- 3. Process is more important than outcome.** When the outcome drives the process, we will only ever go to where we've already been. If process drives outcome we may not know where we're going, but we will know we want to be there.
- 4. Love your experiments (as you would an ugly child).** Joy is the engine of growth. Exploit the liberty in casting your work as beautiful experiments, iterations, attempts, trials, and errors. Take the long view and allow yourself the fun of failure every day.
- 5. Go deep.** The deeper you go the more likely you will discover something of value.

# *Beyond Kyoto*

## *- It's Us!*

### *United Nations Climate Change Conference*

by Jennifer Mullane

Last November, three MSE grads had a chance to influence the future of our world. Louis-Etienne Robert, Robert Larson, and Jennifer Mullane participated in the international youth summit: *Beyond Kyoto – It's Us!* Where young people from around the world gathered to consolidate their visions for the future of a world facing the unprecedented threat of climate change. The summit participants were also given the chance to make an impassioned presentation at the United Nations Climate Change Conference (UNCCC) in Montreal.

The youth summit was held at the Montreal Biosphere during the four days leading up to the UNCCC. Approximately 110 participants from 23 countries - representing a variety of academic and professional backgrounds - found themselves instantly united. The participants were faced with the challenge of writing a declaration on climate change that represented the views of youth from around the world.

Three days of concentrated thinking, brainstorming, writing, commenting, negotiating debating, discussing and a little bit of voting led to the production of an international youth declaration on climate change. The summit participants, including scientists, journalists, lawyers, artists and educators, were proud of the declaration they built almost entirely by consensus. The declaration encourages cooperation among countries, sectors, cultures, and generations; but, it also demands concrete action from governments in dealing with climate change.

The negotiation process undertaken by the summit participants was not unlike that of the official representatives of the parties to the UN Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol at the UNCCC. The negotiators at the UNCCC were responsible for adopting the Marrakesh Accords (the rulebook of the Kyoto Protocol), initiating discussions on the future of the Kyoto Protocol, and moving forward on adaptation strategies.

Louis, Robert, and Jennifer, and approximately 30 others

from the youth summit, continued the united fight against climate change during the UN conference. An important goal for the youth delegation was to have the youth declaration adopted, or at least acknowledged, by parties to the UNFCCC and the Kyoto Protocol.

Through official meetings with foreign delegations, peaceful demonstrations, and active observation at plenary and working group sessions, the young delegates were successful in their goal. Several delegations publicly acknowledged the youth declaration. This accomplishment was only a small dent in the work that needs to be done to fight climate change though. As Louis-Etienne put it, "this was certainly one of the most demanding experiences I have ever had, but also one of the most rewarding. We worked hard and could see the fruits of our labour. The impact we had on the negotiating parties, conference observers and the public was evident. We must continue the work that we have started."

A proposal to have a permanent, funded youth coordinator for UN climate change negotiations is in progress. It is hoped that the youth of the world will remain an integral part of these negotiations. Facing the global challenge that climate change has presented, the younger generations must ensure that their hope, energy, passion and dedication to creating a sustainable world is adopted by the parties to the UNFCCC and the Kyoto Protocol. The framework of the UN can only do so much; beyond Kyoto, it's us.

To learn more about the *Beyond Kyoto – It's Us!* summit and the youth involvement at the UNCCC, go to:

[www.beyondkyoto.org](http://www.beyondkyoto.org)

## OUR CLIMATE, OUR CHALLENGE, OUR FUTURE. International Youth Declaration

We, the youth of today and leaders of tomorrow, face an unprecedented challenge as a result of global climate change and share in the responsibility of addressing it. Taking a step back from the complexities of compromise and negotiation, we cannot help but think the purpose of the Convention has been sidelined. We are frightened by the scale of this emerging global environmental crisis. We stand in solidarity with vulnerable communities who are disproportionately impacted by climate change, including low-income people, marginalized groups, indigenous peoples and people living in geographically vulnerable areas. As stewards of the Earth, we demand the right for all future generations to inherit a healthy planet.

We make this declaration knowing in our hearts that Beyond Kyoto - It's Us!

### Our commitments

Youth around the world are committed to protecting the climate. We engage our communities in participatory action and encourage the respect of humanity's place in nature, cultural diversity, indigenous rights and traditional knowledge. We are supporting clean energy through our own consumption choices. We are moving forward to expand our involvement at the domestic and international levels and encourage broader participation on the part of our peers.

### Our demands

We further the call of previous youth COP declarations for a **permanent, funded youth constituency to be included in the international climate change negotiation process by COP12.**

In accordance with scientific knowledge, **we need minimum binding emissions reduction targets of 30% by 2020 and 80% by 2050 for "developed" countries.** Moreover, agreement must be reached before 2008 and should include additional support to decarbonize "developing" countries, funded in part by penalties for non-compliance of "developed" countries.

**Flexible mechanisms must supplement, not substitute, domestic emissions reductions;** this requires that the vast majority of reductions be achieved at home. The additionality, monitoring and transparency of project-based flexible mechanisms cannot be compromised. The process must include a participatory role for local communities.

We ask governments for a **just transition to low-impact renewable energy** and insist on the **removal of fossil fuel subsidies.** Human rights and social justice must be included in the transition from fossil fuel dependence. Projects involving nuclear energy, large-scale hydro-electric power and waste incineration do not contribute to sustainability. Carbon sequestration is a last resort to mitigating climate change.

**Adaptation options need to be addressed in parallel with mitigation.** More resources are urgently needed for the most vulnerable countries with the lowest adaptive capacity, especially in the form of funding for local adaptation. Plans for both human adaptation and appropriate ecological management techniques must be incorporated into national policies.

**Food and water security** must be guaranteed in order to avoid conflict under a changing climate. Environmentally displaced peoples must be provided assistance.

We urge governments to refine their urban planning policies, promote green architecture, incorporate public transportation systems, and encourage non-motorized modes of transport.

Vehicle fuel efficiency standards must be enhanced. Aviation and maritime emissions must be reduced through mandatory targets.

We insist that governments incorporate an **ambitious multi-disciplinary approach to sustainable development in our education systems,** including a curriculum on climate change.

### Our vision

We respect both past and future generations and recognize that humanity is part of the Earth's ecosystems. Human and ecological wellbeing must supersede economic concerns if only because economies depend on ecosystems. Technology alone is not a solution; we do not want the continuation of unsustainable habits. We value community, culture and life above superficial consumption.

Communities, each with a unique insight into their own situation, are the best producers of solutions for mitigation and adaptation. We support business initiatives that are striving to help us achieve our vision. Governments' responsibilities are to the people, before corporations.

Climate change solutions must guarantee the right to a healthy environment and the environment's right to health as well as ensure equity amongst present and all future generations. Education should promote sustainability within a diversity of cultures. The low-carbon economy is not a low-job economy.

We envision a world where all members of society have not only the right, but the means to influence the world around them, and where sustainability, equity, and justice are uncompromised values.

As youth, we have the right to shape the world we live in. We are already taking steps in our own lives and communities to realize our vision and we demand that our leaders do the same.

**Climate change is an opportunity to unite.**

**The age of competition is past; the age of cooperation is dawning!**

## *Please welcome to the MSE...*

### Professor Elena Bennett

**M**y research primarily revolves around my interest in understanding and managing ecosystem services. I'm particularly curious about the trade-off that often exists between agricultural production and water quality, when fertilizers degrade water quality. What can we learn about this trade-off that may help improve management of ecosystems to provide multiple services?

I am also interested more generally in the impact of humans biogeochemical cycling (and the feedback impacts of these changes on people's lives), agriculture and water quality, land use change and water quality, and urban ecology.

One of my goals is to do research that will in some way provide the general public with a useful product, such as information, understanding, or some other tool. To this end, I also work on other issues in ecosystem management, communicating science and the theories behind ecosystem management - including the resilience of ecosystems and human institutions, and the use of science in management decisions - to the public and other policy-makers.



### Professor Ismael Vaccaro

**A**s an environmental anthropologist, my research has focused on understanding the historical formation and contemporary dynamics of social and ecological landscapes with special emphasis on the interactions between public policies and local communities. My current research analyzes land use, conservation policies and the social, economic and environmental sustainability of rural areas. I am in the process of assembling a methodological toolkit that should provide conservation policy designers and managers with vital information for their work. It aims to establish a bridge between ecology and social sciences to improve conservation policy design, local development and social and ecological sustainability.



My current research also analyzes the possible historical connections brought about by the colonial bond between Spain (Natural Park of the High Pyrenees) and Mexico (Chamela Biosphere Reserve in Jalisco). The goal is to provide social data to inform public policies and foster social and ecological sustainability in and around the protected area. I am also collaborating as an anthropological advisor on health issues to facilitate medical communication between health care professionals and local residents.

## *Faculty Kudos*

**C**ongratulations go out to Renée Sieber and Frédéric Fabry who were promoted to Associate Professors in the MSE.

Special congratulations go to Prof. Jaye Ellis on the arrival of her first child, Nikola.

Prof. Frédéric Fabry has recently been named the recipient of the President's Prize of the Canadian Meteorological and Oceanographical Society. The President's Prize is awarded each year to a member of the Society for a recent paper or book of special merit in the fields of meteorology or oceanography. Prof. Fabry received the award last June "...for his very innovative and important contribution to radar meteorology in deriving humidity fields from meteorological radars ground clutter echoes, as highlighted by his paper, co-authored with Frush, Zawadzki and Kilambi, on the extraction of near-surface index of refraction using radar phase measurements from ground targets, published in the 1997 Journal of Atmospheric and Oceanic Technology 14, 978-987".

Acknowledgement goes to Prof. Madhav Badami, who has recently been elected as a member of the Committee on Transportation in Developing Countries of the Transportation Research Board (TRB) of the National Academies of the U.S.A. The committee will foster research, global communications and interaction, and avenues for transfer of intellectual technology on issues related to transportation in developing countries. The committee fosters research, global communications and interaction, and avenues for transfer of intellectual technology on issues related to transportation in the developing countries.



# NEO

I am your Program Coordinator for the McGill University/Smithsonian Tropical Research Institute, Graduate Students Neotropical Environment Option, and the Undergraduate Students Panama Field Studies Semester, here in Panama City. It is my privilege to coordinate the courses and to take care of the students who are enrolled in these classes. It's a great opportunity to get to know different students every year, to develop friendships, and see them again making further progress in their studies.

Welcome to the new groups. We wait for you with open arms.

Mirna Fernandez



Nilka Tejeira, Program Coordinator  
Smithsonian Tropical Research Institute  
<http://www.mcgill.ca/neo/questions/>

Soy su Coordinadora del programa de la Universidad de McGill y del Instituto Smithsonian de Investigaciones Tropicales, la Opción en Ambientes Tropicales (NEO) y el programa de Licenciatura del Panamá Field Study Semester en Panamá. Es un privilegio coordinar los cursos y "cuidar" de los estudiantes matriculados en estas clases.

Es una gran oportunidad conocer diferentes estudiantes cada año, desarrollar un acercamiento amistoso y volverlos a ver en Montreal avanzando en sus estudios.

Bienvenidos a los nuevos grupos. Aquí los esperamos con los brazos abiertos.

Under the auspices of the McGill School of the Environment (MSE), the McGill-STRI Neotropical Environment Option (NEO) is a research-based option for Masters or PhD students in the departments of Biology, Geography, Natural Resource Sciences/Entomology, Plant Science, Political Science, Sociology and Bioresource Engineering at McGill University. NEO is aimed at students who wish to focus their graduate research on environmental issues relevant to the neotropics and Latin American countries.

Gian Montufar



Get Together in Panama with students from the universities of McGill, Princeton, and Toronto.

Please welcome Dr. Brian Leung as our new NEO associate. He comes to us from the MSE and the Dept. of Biology.



His research interests encompass: Joanna McNulty

Biological invasions, ecology of diseases, anthropogenic stressors. Addressing environmental issues through the synthesis of models (mathematical, computational, and statistical) with empirical data (literature, field or lab studies). Creating models for ecological forecasting, given uncertainty and sparse data. Developing decision theory, using risk analysis.

To find out more about Dr. Leung's research, please visit his website:  
[www.biology.mcgill.ca/faculty/leung/index.htm](http://www.biology.mcgill.ca/faculty/leung/index.htm)

## Something fishy is going on at the MSE...

### ENVR 401—Environmental Research

by Brian Leung, Professor in Biology

**N**on-indigenous species pose a significant threat to the biodiversity of the Great Lakes and cause \$5.7 billion per annum in damages. For this reason, it is important to assess the risks associated with possible vectors, or pathways of entry, for non-indigenous species into the St. Lawrence Seaway, which connects to the Great Lakes. The aquarium trade has been identified as a potential pathway of invasion, but the risk remains unknown. Two groups of Environment 401 students worked with Professor Leung to estimate the quantity of fish and aquatic plants being introduced to the St. Lawrence: Erika Brown, Jill Cohen, Alexandra Macpherson, Laura Montgrain, Nicholas Mirotnick, and Marie-Noël St-Hilaire studied the plants, while Anissa Brenner-Bejaoui, Corey Chivers, Oriana Familiar, Erin Gertzen, and Michelle Lee estimated numbers of fish. These students developed advanced methodology and merged literature surveys, social surveys, species identifications, Bayesian statistics and probability models to estimate the propagule pressure entering the St. Lawrence from the aquarium trade in Montreal. They found that the propagule pressure is much higher than intuitively expected. For instance, roughly 9000 fish are released annually into the St. Lawrence. The choice of species released depends upon characteristics such as fish size and aggressiveness. This project clearly demonstrates that when motivated undergraduates work with supportive professors and interested partners, a great deal of high-quality work can be accomplished in a short amount of time. This work will have real applications for conservation biology and will help inform policies developed by the partner organization, the Department of Fisheries and Oceans.

#### Students' programs of study:

BSc, Biodiversity & Conservation, U3: Erika Brown, Laura Montgrain, Nicholas Mirotnick, Marie-Noël St-Hilaire

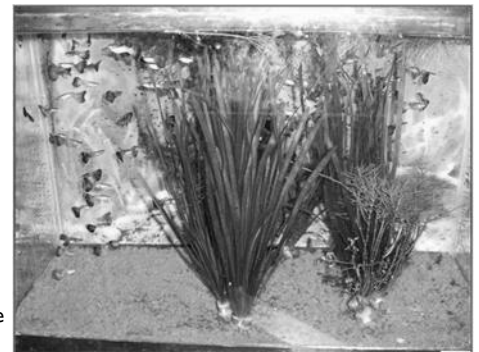
BA, Environment & Development, U3: Alexandra MacPherson, Anissa Brenner-Bejaoui

BSc Hons, Biodiversity & Conservation, U3: Jill Cohen

BSc, AgrEnvSc, Renewable Resource Management, U3: Erin Gertzen, Oriana Familiar

BA, Environment & Development, Economics, U3: Michelle Lee

BSc, Atmospheric Environment & Air Quality, Graduate Feb. 2006: Corey Chivers



Other Fishy Tales by Dr. Anthony Ricciardi, Redpath Museum, (<http://www.redpath-staff.mcgill.ca/ricciardi/index.html>):

Anneli Jokela, a graduate student in Dr. Ricciardi's lab, is investigating the impact of zebra mussel fouling on native mussels in the St. Lawrence and Richelieu rivers. Freshwater mussels (Unionidae) are North America's most endangered group of animals. The zebra mussel has accelerated their rate of decline in many lakes and rivers, but in some habitats it apparently coexists with them with minimal impact. Anneli's research examines how the zebra mussel's impacts vary with environmental conditions such as water quality, hydrology, and the presence of molluscivores, to determine what kind of habitats could serve as safe havens for native species.

Kathryn Harper, also a graduate student in Dr. Ricciardi's lab, is investigating the impacts of dreissenid mussel invasions on the diets of yellow perch and other freshwater fish in the St. Lawrence River. Read more about their research:

<http://www.redpath-staff.mcgill.ca/ricciardi/studentprofiles.html>



Katie Harper, MSc Biology graduate student collecting fish (holding a longnose garfish) in the Soulages Canal.



Zebra mussels on a stick.



Anneli Jokela, MSc Biology graduate student, in search of zebra mussels in the Richelieu River.

## *Diane Hasley Environmental Field Activities Award*

**T**he MSE academic program is founded on the belief that learning through real world problem-solving is one of the most effective teaching methods in higher education. Since it first opened its doors in 1998, the MSE has incorporated as many experiential learning opportunities as possible.

The generous donation of the Diane Hasley Environmental Field Activities Award allows the MSE to fund students, in high academic standing, in their U2 or U3 year of a BSc, BA, a BSc (AgEnvSc) program with a major in Environment, who are enrolled in a field course or semester associated with the McGill School of Environment degree program.

We are proud to announce the winners for 2005-2006:

### Africa Field Studies:

Esme Lanktree, BSc (Hons) Ecological Determinants of Health - Population; International Development Studies

### Barbados Field Studies:

Olive Bailey, BSc Food Production & Environment

Melanie Frenette, BA Environment & Development

### Panama Field Studies:

Heather Elliott, BSc, Renewable Resource Management

Nathalie Gibb, BSc Renewable Resource Management



We want your stories! Cool job, significant event in your life, interesting ways of looking at environmental issues?  
Send us details. We like photos too!

## *Student Kudos*

**T**wo NEO students won international student awards in conferences:

**Malena Sarlo**, MSc Biol/NEO, U3: Puerto Rico from November 14-18, 2005. Experts of ecology and taxonomy of earthworms participated in the conference, Like Sam James and Paul Hendrix. Title of talk, "Earthworm biomass and numbers in a biodiversity tree plantation in the tropics". Won a scholarship to attend the conference and awarded the best student presentation during the meeting.

**Kate Kirby**, MSc Biol/NEO, Graduate Feb. 2005: Francesco di Castri Award for Best Presentation by a Young Scientist for talk, "Opportunities for combining carbon sequestration and biodiversity conservation in an indigenous territory in eastern Panama". Diversitas Open Science Conference I: Integrating Biodiversity for Human Well-Being. Oaxaca, Mexico, November 12, 2005.

**Sophie Mazowita**, BSc Envr, U2: Received an undergraduate NSERC Summer Research Award. She will be working with Prof. Elena Bennett on a project about understanding soil phosphorous in the Yamaska River watershed.

## *MSE Honours Research Presentations 2006*

by Pete Barry

**O**ur first group of Honours students presented their research results in early April this year. These students were the first to complete the new Honours in Environment program, which was introduced in Fall 2005 in response to student demand. True to MSE form, the research covered a wide range of topics, from climate change to religion to infectious disease.

This program gives our students the opportunity to pursue a directed, focused, and individual research project over the course of a full year, under the supervision of a professor. While MSE students have been going on to complete graduate studies for many years without having had an honours program, this new program provides students with additional preparation for graduate level research.

### **Alexander Watts**

B.A. – Ecological Determinants of Health in Society Domain  
Supervisor: Colin Chapman, MSE and Anthropology  
“Measuring Primate Infection Risk Along A Disturbance Gradient In Kibale National Park, Uganda”

### **Nicole Lulham**

B.Sc. Ecological Determinants of Health Domain  
Supervisor: Raja Sengupta, MSE and Geography  
“Trends in Historical Contagious Disease Death Rates by Montreal Divisions: Census Years 1901-1951”

### **Jill Cohen**

B.Sc. Biodiversity and Conservation Domain  
Supervisor: Tony Ricciardi, MSE and Redpath Museum  
“Is there a correlation between impact and invasiveness in exotic species?”

### **Stefanie Kulhanek**

B.Sc. Biodiversity and Conservation Domain  
Supervisor: Tony Ricciardi, MSE and Redpath Museum  
“Influence of Invertebrate Prey Availability on Yellow Perch Diets”

### **Jodie Martinson**

B.A. Environment and Development Domain  
Supervisor: Gregory Mikkelsen, MSE and Philosophy  
“Crucifying the Great Bear: Christianity and Bush Religion in Comparison”

### **Alexandre Maltais**

B.A. Economics and Earth's Environment Domain  
Supervisor: Colin Scott, Anthropology; and Monica Mulrennan, Concordia University  
“The Concept of Cultural Landscape: Bridging Traditional Protection Frameworks and Aboriginal Interests in Land Conservation”

### **Nina Berryman**

B.A. Environment and Development Domain  
Supervisor: Nigel Roulet, MSE (Director) and Geography  
“Calculating Vmax of Northern Bog Species: An Application to Climate Change”

### **Alanna Quock**

B.A. Environment and Development Domain  
Supervisor: Garry Peterson, MSE and Geography  
“Analyzing the McGill School of Environment Downtown Building as a Physical System: Lessons for the Present and Future”



Prof. Raja Sengupta and Nicole Lulham enjoy some pizza between research presentations.

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or 514-398-8879

