

INTERACTIONS

The Ontario Journal of Environmental Education

The mission of OSEE is to support and inspire educators
teaching Environmental Education in Ontario



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Welcome to *Deep Winter!*

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Interactions is the journal of the Ontario Society for Environmental Education (OSEE), whose mission is to support and inspire educators teaching Environmental Education in Ontario. OSEE is an affiliated subject association member of the Ontario Teachers' Federation (OTF) and operates as a nonprofit organization supporting the Ontario Curriculum. The main focus of the Editorial Board of *Interactions* is to provide teachers with environmental education resources and activities to help them in their classrooms with their students. *Interactions* is published five times annually, in October, December, February, April and June. ISSN 1188-3146

Editorial Board of Interactions:

Chair: Mike Morris 519-471-2699
258 Berkshire Place, London, ON N6J 3N6
Editor: Bill Thompson 519-539-8413
54 Blackfoot Place, Woodstock, ON N4T 1E6
Proof Readers: Bill Thompson, Anita Payne,
Gwen Layton.

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CD Contents

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Editor's Notes



Mike Morris

At the end of a pickup hockey game in mid-February, one of the players noticed that the sky after the game (at about 6:30 PM) wasn't as dark as it was in December. Yes, days are getting longer. Yahoo! The days also remain quite cold. Brrr!

This issue of *Interactions* has outstanding feature articles that remind us that teachers are doing great things in schools for the environment. One of our intermediate teacher's most important tasks is to stimulate students to use independent inquiry. To that end, Brad Digweed, Bryan Honsinger, and Stephanie Minor report on a program in the District School Board of Niagara to use oil in the environment as a basis for teaching independent thought. The Alberta Oil Sands and the recent oil spill in the Gulf of Mexico were used as examples of where oil is in our environment in large amounts. Fascinating reading!

Roberta Oswald reports on a project about encouraging students to 'Dream the World We Want'! This takes the form of students to dream what they would like to see in their world. Very powerful!

Another great environmental project happened recently at École secondaire Étienne-Brulé in Toronto. Mounir Ferrag, a science teacher at Étienne-Brulé, submitted an article about this project that was designed around helping students to protect the environment as part of the ÉcoResponsables program. Did I mention that this article was written entirely in french (complètement en français)? Merci Mounir! On est en attente de votre prochain article!

Holly Groome read David Suzuki's 2010 book: *The Legacy: An Elder's Vision for our Sustainable Future* and wrote a report on the book.

Anita Payne wrote a great article about the Latornell Conservation Symposium she attended on behalf of OSEE, including the keynote address by Richard Louv, author of "*Last Child in the Woods: Saving our Children from Nature Deficit Disorder.*" Anita also used a great word: webinars! Know what that means? I didn't know. Read Anita's article to learn that new word!

Finally, how's your Latin? I'm working on my next Meanders already and I promise to include some of it for you fans of that language.

Mike Morris is Editorial Chair of *Interactions*



President's Message

Sherri Owen

Références et pour plus d'information

References and Further Reading

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In 1970, the U.S. federal government was one of the first to pass a national act mandating and supporting environmental education. The National Environmental Education Act was signed into law by Richard Nixon. This changed my opinion of Nixon a bit, but only a bit. The act created the Office of Environmental Education and ensured funding to support its objectives.

In 1981 U.S. President Reagan eliminated the office as a cost saving and downloading measure. However, President Bush (the first one) revived the act as the National Environmental Education Act (NEEA) in 1990. Although the act expired in 1996, the U.S. government has continued to fund the Office of Environmental Education (OEE), now overseen by the Environmental Protection Agency (EPA).

In 2010 efforts were made to reauthorize the U.S. NEEA of 1990. The bill was before Congress and in committee but failed to be passed before the end of the year. As a result the bill died and will need to be reintroduced in 2011. Funding for the OEE continues, though no increase has been approved in ten years.

If that sounds confusing, it is. My study of federal acts to support environmental education has revealed the convoluted and intermittent path these things follow. Convoluted because all governments and their connected bureaucracies are convoluted, and intermittent because funding and support are dependent on the intermittent nature of who is in power and when. None of this means it is not a worthy goal.

Canada does not have a national policy on environmental education. A number of educators and environmentalists have decided this should be corrected. Upon invitation, the OSEE board has voted to join the National Association for Environmental Education and Communication (EECOM), and other like minded organizations, in campaigning to change this. The specific motion is that: OSEE officially advocate for a National Environmental Education Act and collaborate with EECOM and with other provincial/territorial associations to have the act approved by Canada's parliament.

If the national government can be persuaded to adopt a national policy, it will bring us into line with the U.S. and other nations.

What has the passing of an Environmental Education Act done for the U.S.? So far a great deal of curriculum material has been developed. The cost of developing quality educational materials is high, and the mandated government support certainly made those materials possible. This meets a need described by classroom teachers, a lack of resources for environmental education. Many of the materials draw on digital media available over the Internet including films and slide shows.

The U.S. National Environmental Education Foundation (NEEF) has been established (www.neefusa.org). It provides grants to support environmental education in schools and for professional development for teachers. U.S. funding for environmental education is set out in the NEEA. Other than giving away money, the NEEF is a source of information about the environment and education. News stories, updates, and links are provided on their site.

An official U.S. Environmental Education and Training program for education professionals has been developed and funded, as well as awards for students, including scholarships to fund post secondary education.

The U.S. Environmental Education Advisory Council and the U.S. Federal Task Force on Environmental Education were formed to assess the success of the implementation of the act and report to the government.

At present, EEON, OSEE and the wider alliance are waiting for several other like minded organizations to officially support our objective. Boosting Environmental Education in any way is a positive step. As the problems we face become more and more global in nature, it is only natural that we should move away from provincial level policies and towards a larger model. The UN has adopted several position statements in support of Environmental Education for all students. OSEE will continue a multi-pronged approach by supporting federal action and providing teachers with immediate classroom and lesson support in our journal and conference.

Sherri Owen is OSEE President

Message de la présidente

Sherri Owen



En 1970, le gouvernement fédéral des États-Unis était un des premiers à passer un acte national exigeant et soutenant l'éducation environnementale. L'acte d'éducation environnementale national est devenu loi sous Richard Nixon. Ceci a changé mon avis de Nixon un peu, mais seulement un peu. L'acte a créé le Bureau de l'Education Environnementale et a assuré le financement pour soutenir ses objectifs.

En 1981 le Président Reagan des États-Unis a éliminé le Bureau comme mesure d'économie et de compression. Cependant, le Président Bush (le premier) a rétabli l'acte comme Loi d'éducation environnementale nationale (NEEA) en 1990. Bien que l'acte ait expiré en 1996, le gouvernement des États-Unis a continué à placer le Bureau de l'Education Environnementale (OEE), maintenant surveillé par l'Agence pour la Protection de l'Environnement (EPA).

En 2010, des efforts ont été faits afin de réautoriser le NEEA Américain de 1990. Le projet de loi était devant le congrès et au sein de comité mais n'a pas réussi à passer avant la fin de l'année. En conséquence le projet de loi est mort et devra être réintroduit en 2011. Le financement pour l'OEE continue, bien qu'aucune augmentation n'ait été approuvée en dix ans.

Si cela semble déroutant, ce l'est. Mon étude des actes fédéraux pour soutenir l'éducation environnementale a révélé le chemin compliqué et intermittent que ces choses doivent suivre. Compliqué parce que tous les gouvernements et leurs bureaucraties sont compliqués et intermittents parce que le financement et l'appui dépendent de la nature intermittente de qui est au pouvoir et quand. Rien ne signifie que ce n'est pas un but digne de soi.

Le Canada n'a pas une politique nationale sur l'éducation environnementale. Un certain nombre d'éducateurs et d'écologistes ont décidé que ceci devrait être corrigé. À l'invitation, le conseil de l'OSEE a voté pour joindre l'association nationale pour l'éducation environnementale et la communication (EECOM), et d'autres organismes occupés dans la campagne pour changer ceci. La motion spécifique est celle-ci : OSEE préconise officiellement pour un acte d'éducation environnementale national et collabore avec l'EECOM et avec d'autres associations provinciales/territoriales pour faire approuver l'acte par le Parlement du Canada.

Si le gouvernement national peut être persuadé

d'adopter une politique nationale, cela nous mettra au même rang qu'aux États-Unis et qu'à d'autres nations.

Qu'est-ce que l'acte d'éducation environnementale a-t-il fait pour les États-Unis? Jusqu'à présent, beaucoup de matériel pour les programmes d'études a été développé. Le coût pour développer les matériaux éducatifs de qualité est élevé et le soutien gouvernemental a certainement rendu ce matériel possible. Ceci répond à un besoin décrit par les professeurs, un manque de ressources pour l'éducation environnementale. Plusieurs des matériaux utilisent les médias numériques disponibles sur l'Internet, en plus de films et de projections de diapositives.

La National Environmental Education Foundation des États-Unis a été établie. (www.neefusa.org) NEEF fournit des fonds pour soutenir l'éducation environnementale dans les écoles et pour le développement professionnel pour des professeurs. Le financement des États-Unis pour l'éducation environnementale est organisé par la NEEF. Autre que d'octroyer l'argent, la NEEF est une source d'information sur l'environnement et l'éducation. Des articles, les mises à jour et les liens sont fournis sur leur site.

Un programme Américain environnemental officiel de formation pour les professionnels de l'éducation a été développé et subventionné. Des prix pour des étudiants comprennent des bourses pour l'éducation post-secondaire.

Le Environmental Education Advisory Council des États-Unis et Federal Task Force des États-Unis sur l'éducation environnementale ont été formés pour évaluer le succès de l'exécution de l'acte et pour faire un rapport au gouvernement.

Actuellement, EEON, OSEE et d'autres alliances attendent plusieurs autres organismes pour soutenir officiellement notre objectif. Encourager l'éducation environnementale de quelque façon est une étape positive. Comme les problèmes dont nous faisons face deviennent de plus en plus de nature globale, il est seulement normal que nous devrions nous déplacer des politiques de niveau provinciales et vers un plus grand modèle. L'ONU a adopté plusieurs déclarations d'intention en soutenant l'éducation environnementale pour tous les étudiants. Ici à OSEE, nous continuerons notre approche multi-dimensionnelle en soutenant l'action fédérale et en fournissant aux professeurs l'appui dans la salle de classe et avec des leçons dans notre journal et conférence.



Interruptions

Astrid Steele

The Seduction of Sustainability

Sustainability is the new black. It's the buzzword that's made it from the local farmer's market into the upper echelons of the corporate world. It pervades school curricula, especially in the sciences. And despite its heavy usage, it doesn't seem to be getting tired or frayed. I think about sustainability a lot.

The paradigm of sustainability ensures that we take our own bags to grocery (and other) stores, use power bars to avoid phantom loads, install better windows and doors, purchase organic cotton tees and locally grown lettuce, and... well your list is likely similar to mine. But, like global warming, the idea of sustainability has kind of crept up on us and now we find it entrenched in our popular culture and our curricula, without really understanding its possible implications.

So let's begin with a definition: "sustainability is improving the quality of human life while living within the carrying capacity of supporting ecosystems." (1) Interesting that this version of sustainability implies improvement rather than maintenance. Certainly there are millions on this planet who could stand significant improvements in their living conditions and I believe the wording was intended for those in the developing world.

I, on the other hand, live a very comfortable life and really don't need it improved; I don't need a breadmaker or a robotic vacuum, or even new shoes. Nonetheless I find myself eyeing up that new clean-diesel Jetta; it's shiny with no rust or stains on the seat, or funny clunking sound in the back. The fact is, if I were to calculate my ecological footprint honestly, I suspect that I live well beyond the carrying capacity of my supporting ecosystems (which are probably found in the developing world, quite far from where I actually live). My comfortable existence is underwritten by the loss of natural resources, energy production and pollution and exploitative human labour around the world. There is very little that is sustainable about my lifestyle, so without a doubt the quality of my life could stand some downsizing rather than improvement... a lighter tread on the planet, as it were. Yet I, and the majority of us living in Canada, are lulled into a sense that we are actually living fairly sustainable lives. How does this happen? How can this be?

Possibly we have been soothed by the pervasive message that if we do things like recycle our plastic

waste, and purchase green cleaning products, we are doing our part and can carry on with life as we know it. Bill McKibben, in his new book *Earth; Making a Life on a Tough New Planet (2)* says "...we can't imagine alternatives; at best we embrace the squishy sustainable, with its implied claim that we can keep on as before."

And that is the problem that I see with the term 'sustainable': it conveys the sense that things can pretty much stay the same with a few little tweaks here and there in our general behaviours. And aided now by a self-proclaimed greener corporate world that is providing us with conscience-soothing electric cars and rechargeable batteries, sustainability has become a seductive idea.

Therefore, I am even more troubled when I am confronted with the further notion that economic growth or development is sustainable on this finite planet. The most widely quoted definition of sustainable development is that provided by the Brundtland Commission of the United Nations in March, 1987: "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (3) But I'm beginning to wonder if sustainable development is even possible. It's a popular term bandied about by politicians and those in business, and we tend to buy the concept hook, line and sinker. Why? Because the alternative is pretty scary... downsizing, living with less, taking on more physical labour, giving up recreational travel, giving up our toys, (the sleek snow machine? The newest piece of digital technology? Heck, even my carbon fibre paddle).

What does the seductive nature of sustainability mean for environmental education, and for us as educators? Well, I think that it's important to become and stay informed. Read, watch, listen, and teach our students to read, watch and listen. Teach them to question, to inquire and to see beyond themselves and their own small worlds. Model and teach decision-making. Become the enablers who facilitate wise actions locally, based on situations globally.

Because sustaining the course that we are currently on is just not... well... sustainable.

Astrid Steele is Assistant Professor of Education, Curriculum Studies – Science, Nipissing University

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Interruptions

Astrid Steele

La séduction de la durabilité environnementale



La durabilité environnementale est le nouveau noir. C'est le mot à la mode qui est présent à partir du marché du fermier local jusqu'aux échelons supérieurs des corporations. Il s'est infiltré dans les programmes à l'école, particulièrement en sciences. Et en dépit de sa grande utilisation, il ne semble pas se fatiguer ou d'être à bout. Je pense beaucoup à la durabilité.

Le paradigme de la durabilité s'assure que qu'on prend nos propres sacs à l'épicerie (et autre magasins), qu'on utilise des multi-prises pour éviter les surcharges, qu'on installe de meilleures fenêtres et portes, qu'on achète des t-shirts en coton organiques et de la laitue cultivée sur place, et... bon votre liste est probablement semblable à la mienne. Mais, comme le réchauffement climatique, l'idée de la durabilité environnementale nous est arrivée furtivement et maintenant nous la trouvons renforcée dans notre culture populaire et nos programmes d'études, sans comprendre vraiment ses implications possibles.

Commençons par une définition : la « durabilité améliore la qualité de la vie humaine tout en respectant la capacité des écosystèmes à se soutenir » (1) Il est intéressant que cette version de durabilité implique l'amélioration plutôt que l'entretien. Certainement il y a des millions de gens sur cette planète qui pourraient bénéficier des améliorations significatives de leurs conditions de vie et je crois que ces mots ont été prévus pour ceux dans le monde en voie de développement. Je vis, d'autre part, une vie très confortable et qui n'a vraiment pas besoin de s'améliorer. Je n'ai pas besoin de machine à pain ou d'aspirateur robotique, ou même de nouvelles chaussures. Néanmoins j'observe cette nouvelle Jetta à diesel propre; elle est brillante, sans rouille ou taches sur le siège, et sans drôle de bruits en arrière. Si, par contre, je devais calculer mon empreinte écologique honnêtement, je pense que je vis bien au delà de la capacité de charge de mes écosystèmes de soutien (qui sont probablement trouvés dans le monde en voie de développement, tout à fait loin d'où je vis réellement). Mon existence confortable est garantie par la disparition des ressources naturelles, la production énergétique et la pollution et le travail d'exploitation des humains autour du monde. Il n'y

a très peu qui est soutenable au sujet de mon style de vie. Sans aucun doute, la qualité de ma vie pourrait souffrir d'une certaine réduction de taille plutôt que d'une amélioration... un fil plus léger sur la planète. Pourtant, moi et la majorité des habitants du Canada, sont apaisés par un sens que nous vivons réellement en respectant la durabilité. Comment cela s'est-il produit ? Comment peut-il en être ainsi?

Nous avons probablement été calmés par le message dominant comme lequel si nous recyclons nos déchets plastiques et si nous achetons des produits d'entretien verts, que nous faisons notre part et nous pouvons continuer avec notre vie actuelle. Bill McKibben, dans son nouveau livre *Earth; Making a Life on a Tough New Planet* (2) dit que « ... nous ne pouvons pas imaginer des solutions alternatives ; au mieux nous avons le soutenable visqueux, avec sa déclaration implicite que nous pouvons continuer comme avant. »

Et c'est le problème que je vois avec le terme « durabilité environnementale » : Il donne l'impression que les choses peuvent rester comme elles le sont avec quelques petits ajustements ici et là dans nos comportements généraux. Et facilité maintenant par un monde de corporation auto proclamé plus vert qui nous fournit les voitures électriques et des piles rechargeables qui calment la conscience, la durabilité est devenue une idée séduisante.

Par conséquent, je suis encore bien plus préoccupé quand je suis confronté avec la notion supplémentaire que la croissance économique ou le développement est possible sur cette planète limitée. La définition la plus largement citée du développement durable qui est fournie par la Commission de Brundtland des Nations Unies en mars 1987 : le « développement durable est un développement qui répond aux besoins du présent sans compromettre la capacité des générations futures de répondre à leurs propres besoins. » (3) Mais je commence à me demander si le développement durable est même possible. C'est un terme popu-

(Voir Interruptions, page 27)

Astrid Steele est professeur adjoint de l'éducation, l'étude du curriculum - Science, l'Université Nipissing



Environmental Education FYI

Andrew Boughen

The Year of Forests

The United Nations General Assembly declared 2011 as the International Year of Forests.

The central theme of the year is to celebrate

the central role that people around the world play in the sustainable management, conservation and sustainable development of our world's forests. In addition, it is hoped that international events will educate and highlight the importance of forests in providing shelter to people, supporting biodiversity, providing a source of food, medicine and clean water to the world's people, and the overall vital role forests play in maintaining a stable global climate and environment. At the website www.un.org/en/events/iyof2011/index.shtml you can find information regarding events being organized throughout the year, as well as interactive web tools and resources to promote dialogue on forests around the world.

Ontario's Biodiversity Education and Awareness Network (BEAN) has announced that "Biodiversity and Forests" will be its special theme to celebrate this year's International Biodiversity Day which occurs on May 22. This is meant to reflect the UN's declaration of 2011 as the International Year of Forests. BEAN wants to encourage people and organizations to plan environmental events in Ontario on or near May 22 that showcase the links between biodiversity, forest ecosystems, ecosystem services produced by forests, and how we, as humans depend on those services. To coordinate an event contact Aileen Rapson at aileen.rapson@ontario.ca for information about support that BEAN can offer. The BEAN website www.biodiversityeducation.ca, has postings for biodiversity events throughout the year.

During this special year of celebrating the world's forests, it seems appropriate to highlight some of the educational materials available to teach about forestry issues. The Ontario Forestry Association's Focus on Forests website continues as an excellent online resource of ready to use lessons and activities. www.focusonforests.ca/.

An Albertan, Brian Makaruk, has created a forestry trivia game which aims to inform and educate about the importance of forests, and how we can become involved ensuring the sustainability of our forests. The game, called *Mysteries of the Forest*,

focuses on the state of the world's three primary forest ecosystems, the Temperate Rain Forest, the Tropical Rain Forest, and the Boreal Forest. The game includes almost 1000 multiple choice questions. www.mysteriesoftheforest.com.

The Canadian Wildlife Federation has again published another beautiful poster, this year to honour the International Year of Forests. It is available to order online at www.cwf-fcf.org, along with several others, including two that celebrate Canada's biodiversity. These would certainly be excellent resources to beautify your classroom. When you visit the CWF website be sure to browse the many other resources that are available online. One of the programs that CWF promotes each spring is National Wildlife Week, which this year will run from April 10-16, and will be dedicated to Canada's forests. <http://nationalwildlifeweek.com/>.



The American based Project Learning Tree (PLT) is an award winning, multi-disciplinary environmental education program for educators and students in pre-kindergarten through grade 12. As PLT is a project of the American Forest Foundation, there are many interesting forestry education activities to be found at their website www.plt.org. In visiting the website you will find many links to other environmental education organizations. In particular, PLT is partnered with the Earth and Sky organization (www.earthsky.org), and thus one can link from many of the PLT lessons to very interesting Earth and Sky podcasts and information pages.

Citizen Science

The Great Backyard Bird Count (GBBC) is an annual four day event that this year occurs February 18-21. During this time, participants of all ages from across North America count birds they see in backyards, parks, and schoolyards. Counters can spend as little as 15 minutes each of the four days to count and tally the highest number of birds of each species seen at one time. Counts can be submitted online at the GBBC website www.birdsource.org/gbbc/. The event is led by the Cornell Lab of Ornithology and the National Audubon Society, with partnership involvement of Bird Studies



INTERNATIONAL YEAR OF FORESTS • 2011



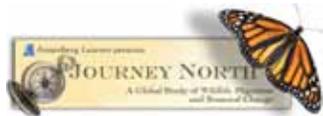
Canada. Scientists use the counts from the GBBC, and other citizen science programs to gain knowledge about our winter birds and gain information that will assist in continental bird conservation. There is a tremendous amount of excellent general birding information at the GBBC website, including sections for teachers and children.

Workshops

Bird Studies Canada’s Long Point Bird Observatory is again accepting applications from youth, ages 13-17 to participate in a very special 10 day ornithology workshop this summer. The Doug Tarry Young Ornithologists’ Workshop is a unique opportunity for six keen youth birders to receive hands-on field ornithology training, including bird banding, census taking, field identification, birding trips, preparing museum specimens, guest lectures, and more! Applications are due by April 15, 2011. Successful applicants will receive the Doug Tarry Bird Study Award to cover all on-site expenses. www.bsc-eoc.org/longpoint/.

Monarch Teacher Network of Canada is planning teacher workshops in Ontario, Manitoba, Saskatchewan, and New Brunswick this summer. This organization runs excellent hands on workshops that give teachers information and classroom ready cross curricular resources about monarch butterflies. The workshop staff also train the participants in techniques of raising and handling monarchs. The program includes sessions on the cultural significance of the monarch migration to Mexico. Many participants say this summer workshop is one of the best they have taken and remark that the workshop prepares them very well to take monarchs into classroom in September. The workshop schedule and locations are being finalized and very soon registration will be available online at www.monarchteacher.ca. Contact Nancy McGee (nmcgee@trca.on.ca) or Andrew Boughen (aboughen@trca.on.ca).

For those that would like to involve their students in studying the migration of the monarchs north this spring, check out the Journey North



program at www.learner.org/jnorth/. This site has a lot of information to teach students about the monarch butterfly biology, reports of conditions in the overwintering sites, and the success of the butterflies in the overwintering sites. Of course, one of the key components of the site is the interactive tools that can be used to track the migration north.

Conference

Bioscience Education Canada is holding its National Bioscience Educators Conference in Toronto at Centennial College March 8-9. The theme is

Bringing Biotechnology to the Classroom. Featured speakers from the University of Toronto, Trent University, and the Ontario Biodiversity Institute will be presenting on a variety of topics. Included in the advertised presentations is one on DNA barcoding and the use of DNA profiling in wildlife management. www.bioscienceeducation.ca.

Earth Hour

Don’t forget that Earth Hour 2011 will take place on Saturday March 26 at 8:30 p.m. local time, in cities and towns across Canada and around the world. It is another opportunity to bring the topic of climate change, and living sustainably to students in a fun way. The World Wildlife Fund has many downloadable resources (<http://www.wwf.ca/earthhour/>) that can be used by Canadian educators.

Presentations and Exhibitions

The Biosphere in Montreal is offering several environmentally themed presentations by video conference across Canada. Presentations topics include ecofootprint, climate change, water pollution and conservation, biodiversity, and air pollution. There is also the opportunity for the Biosphere to deliver teacher training on several topics. Student presentations are 60 minutes long, are meant for age groups 12 and over, and are led by expert facilitators. www.ec.gc.ca/biosphere. You can see a sample presentation at OSEE’s *EcoLinks 2011* conference.

Royal Botanical Gardens (RBG) is home to an interesting interactive touring exhibition entitled *Wild Music: Sounds and Songs of Life*, on tour from the U.S. It is a large 4,500 square foot display designed to give children a chance to learn about animal communication, and about the biological origins of music. Visitors explore the world of animal calls and compose songs using animal voices. Participants experience soundscapes of the ocean, forest and city, and other displays that teach about the science of sound. RBG’s website (www.rbg.ca) has links to teaching guides (to the U.S. curriculum) that can be used in interpreting the displays. The exhibition opened in conjunction with the fundraising initiative *Growing Up Green*. This program will help increase capacity in their education programs for children and will be used to support proper management of green spaces in the area surrounding the RBG. It is part of their focus on ensuring that children get outside to enjoy and learn about nature, and is an extension of their work with the Back to Nature Network. A great deal of information about the *Wild Music* exhibition and about other initiatives, including a teacher open house (February 25th), is available.

(Continued on page 21)

Andrew Boughen is an environmental educator living in Newmarket, Ontario





Nature Story

Allan Foster

Why Beavers Build Dams

This is another teaching story created by a group of science teachers at the STAO conference. Along with their four starting words: beaver, magic feather, deep dark cave, and thunderstorm, they worked in at least four facts from a beaver fact sheet.

In the beginning, before man and woman walked the earth, beavers lived on dry land—in fact they set up their homes in caves. But one time a family of beavers lost its cave, moved to a creek, and became aquatic. They liked their new lifestyle so much that to this day, beavers live in the water. This is how it happened.

A long time ago, there was a family of beavers living on a hillside near a thick forest. The two parents, two teenagers and two small beavers were out searching for food near their cave. It had started out to be a beautiful day and they wandered quite a distance from the safety of their home. Suddenly, they were caught by a terrible flash thunderstorm. They were frightened by the wind, the rain, and the loud claps of thunder. There seemed nowhere for them to escape. And worse, they hurried this way and that until they were completely lost.

All of a sudden they found a cave that was lots big enough to protect them. Unfortunately, once they got inside, they discovered that there was already another family of beavers living there. In spite of the terrible storm, they were kicked out—there is no sharing of space amongst beavers.

There was so much rain, that water was running everywhere. While the storm continued and even got worse, they huddled under a tree by a swollen creek. Fortunately, right there on the ground, partially hidden by the mud, the mom found a glowing golden feather. She picked it up and cleaned it. It must have been magic because when she waved it through the air, the dark clouds parted and the rain immediately stopped. Soon the sun was out.

When the rays of the sun shone down they could see that they had wandered into a big valley where the wind and the floodwaters had knocked down most of the trees. Suddenly, they got an idea. There were so many trees lying around that they began to gather them up into a big pile at the edge of the creek. They added mud to the pile to hold the sticks together. Then they started digging under the pile until they had hollowed out a cave inside the mound of sticks.

They had constructed a perfect cave from branches and sticks. It was very comfortable inside—in fact, more comfortable than their old home. There were still so many sticks lying on the ground that they got another bright idea. They decided that it would be a good thing to surround their new home with a moat. So they began to build a dam across the small creek. They used the same construction materials—sticks and mud—and in no time they had built the first beaver dam.

The dam stopped most of the flowing water so the little creek got wider and wider until it had swollen into a pond—the first beaver pond. That new pond completely surrounded their home built of sticks. This gave them wonderful protection from wolves and coyotes.

They had never before felt so safe. They could even sit on top of their new house and wave to their enemies who were kept away by the surrounding water.

To be extra safe, they built two underwater entrances to their log cave. That way, any enemies who wanted to break into their house, had to first swim underwater. This new invention would even keep small animals and nuisance insects out of their cave. It was a great idea.

They were so pleased with their new home. They felt that all of these great ideas must have come from that magic golden feather. Unfortunately, during all the mess and confusion of the construction, they lost the feather. They were so thankful that they wanted to honour its memory so they decided to create a little ritual. Every night before they went to bed, whether the dam needed it or not, each beaver added two new sticks to the dam. Beavers continue this ritual to this day. That's why beaver ponds are always getting bigger.

Every night, beavers all over the world still swim from one end of their pond to the other searching for that magic golden feather. Unfortunately, they haven't found it yet. And since those early days, no matter how hard you search, you will never find a beaver living in a cave on dry land.

Allan Foster is an OSEE past president. His web site: web.me.com/naturestoryteller features new stories and story-based sound effects. His book, *The Loon, the Bat and the Raspberry Bush: Fables from the natural world*, is full of nature stories.



Media for Environmental Education

Ellen Murray
Greenwashing



Environmental media literacy can be incorporated into a variety of classes. In an art class students can dissect a bottled water ad and then make their own ad for tap water, or for carrying a reusable metal water bottle. A math class can compare vehicle fuel efficiency in a class on decimals while also discussing the value of energy conservation.

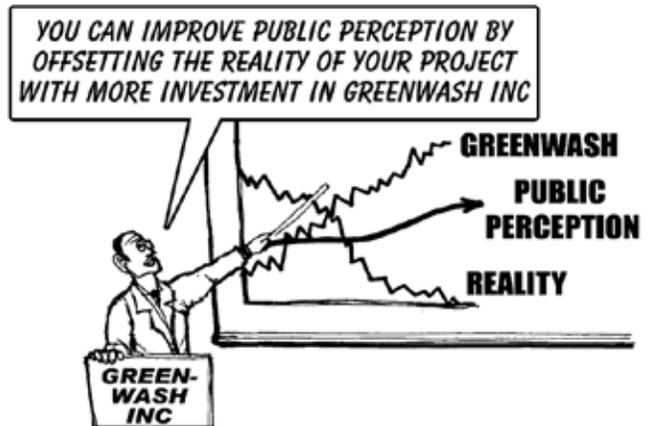
Is bottled water really good for the environment? Is a Hummer an environmentally friendly vehicle? Can large oil and gas companies be leaders in the field of environmental improvements? If you believe what you see in advertisements, then the answer to the questions is yes. Students need the tools to analyse truth in advertising and understand the ads as examples of greenwashing.

Greenwashing describes a marketing ploy used to make a company or its products appear to be environmentally friendly when, in fact, they are not. Analyzing the facts underlying an advertisement and the company selling a product teaches students about the difference between a fact and an opinion, and how a subset of facts can be used to support a biased point of view.

The best website to start with is sinsofgreenwashing.org/findings/the-seven-sins. This kid friendly site helps to classify most greenwashing scams as the sins of: hidden trade-off, no proof, vagueness, false labels, irrelevance, lesser of two evils or fibbing. The best part is the excellent game that has ten sample ads for students to identify the greenwashing sin.

Secondary students can use www.greenwashingindex.com to view greenwashing ads posted by others. People rate and comment on the greenwashing techniques in the ads and students can also post their own examples of greenwashing and invite others to comment.

A positive angle is to challenge students to research a third party certification system for a given product like the Energy Star appliances, Sustainable Forestry Initiative, Fair Trade label, Certified Organic labels, and the European Union's Ecolabel. This gives students an opportunity to explore a range of criteria used to establish what is an environmentally friendly product. They can learn



to recognize the major icons found on product packaging.

The Rainforest Alliance has an excellent website for teachers at www.rainforest-alliance.org/curriculum/resources. In the section for grade 8 students there is a lesson plan and resources outlining forest certification principles.

As most teachers are not media literacy experts I also recommend www.medialit.org/reading-room/canada-offers-ten-classroom-approaches-media-literacy which helps all teachers with the major concepts behind media literacy and learning strategies with subject specific examples.

I leave you with my favourite example of greenwashing: McDonalds has tested switching from a red background to a green background so that, hopefully, we won't notice the mountains of garbage generated or the kilometres of rainforest chopped down to supply our burgers.



Ellen Murray is OSEE Secretary & Membership Coordinator, and teaches at Rosedale Heights School of the Arts, in Toronto



Media and the Environment

Media is a powerful tool that shapes our attitudes and values. In the press the environment is usually portrayed as being in terrible shape.

Positive messages of actions that individuals, governments or businesses can take are often missing. The purpose of this project is to design a poster with a positive sustainable environmental message.



Sustainability Media Project

Name: _____ Date Due: _____

Challenge: Create an educational poster about a concept related to **sustainability**. This must be a good news poster. You can profile an environmental hero, an attitude, or an action.

- Format:** Poster, 22" x 28", half a bristol board size
- any appropriate media format with a catchy title
 - if photos, graphics or text are taken from another source, credit must be given
 - 3D is gorgeous but not required
 - caption, small illegible text is discouraged
 - caption, short concise text is encouraged

Poster Visuals 0 1 2 3 4 5 6

- eye catching
- good colour scheme
- attractive, relevant visuals
- text large enough to be read
- has incorporated some recycled materials

Message 0 1 2

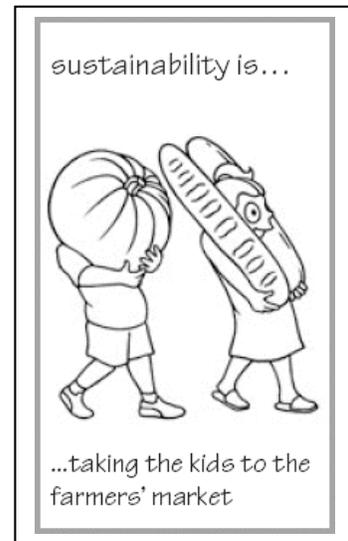
- a sustainable action is promoted

Poster Title and Caption 0 1 2

- clear, understandable
- visible size

Professionalism 0 1 2 3 4 5

- on time, completed
- neat, references if needed
- this marking scheme attached to the back
- grammar, spelling excellent
- name on back of poster



Greenwashing Report

Name: _____

Date Due: _____

Often businesses want to sell you a product and they use a "green" or environmental message to encourage you to buy their product. When the company does **not** have a sustainable product this is called **greenwashing**.



In this two page report you will find and critique two examples of greenwashing. These examples are the **opposite** of the advertisement you want to create. The website sinsofgreenwashing.org/findings/the-seven-sins is an excellent starting point for this project. Here are some examples of greenwashing ads.



Greenwashing Report

0 1 2 3 4 5 6 7 8 9 10

- describe why the two ads you selected are examples of greenwashing
- for each ad identify which of the seven greenwashing sins is committed
- for each ad state three important **facts** about the company or the product to determine the accuracy of the claims
- facts and opinions are clearly identified
- excellent spelling, grammar and paragraph structure
- copies of the ads are attached
- typed, 12 point font, 1" margins
- this marking scheme is attached to the front of the report

Oil Off a Duck's Back: Using Scientific Inquiry to Stimulate Environmental Stewardship in Intermediate Students

Brad Digweed, Bryan Honsinger, and Stephanie Minor

A series of activities were designed, implemented and subsequently revised in our quest to develop our skills in inquiry-based learning, and to encourage independent scientific inquiry in our students.

We were first introduced to the concept of Smarter Science by Mike Newnham, through a one-day workshop set up by the District School Board of Niagara (DSBN) science consultant, Sean Hanna. During the workshop, we investigated the concepts involved in the Smarter Science framework, and formed a team to collaborate on developing a series of lessons using Smarter Science strategies.

Smarter Science is a framework for teaching and learning science in grades 1 to 12 in order to develop the skills of inquiry, creativity, and innovation in a meaningful and engaging manner. Students engaged in Smarter Science-based activities are actively investigating and problem solving, enabled by a teacher who helps them address challenges relevant to their world. As students learn to think and act like scientists, they become increasingly independent and self-confident learners.

www.smarterscience.youthscience.ca

Our team decided to focus on the Water Systems strand in the Grade 8 curriculum and build on students' awareness of recent disasters in aquatic environments. We collaborated to design a lesson on how to remove oil from feathers. The development of our final product included co-teaching the activities more than once in different classrooms. Each time, after using the activities in classrooms, we reflected on the successes and challenges which lead to the development of the version seen here.

Subject, Strands and Grades

The activities were designed to meet expectations in the Grade 8 Science and Technology, Understanding Earth and Space Systems, Water Systems.

Background

The "big ideas" in the grade 8 Water Systems strand are that water is crucial for life on earth, and that water is a resource that needs to be managed sustainably. Students are expected to understand the impact of human activities and technologies (e.g., deep water drilling and the Oil Sands development) on water systems. Students also need to better understand how the web of economic, social

and environmental interests impact how oil and water resources are managed. Providing students context for these issues is an important step in helping them construct deep understanding of the scientific concepts.

In our grade 8 classes, students began this unit of study by reading an original story written by Jacqueline Kelly called *The Boiling Point*. The story is an excellent introduction to the different perspectives around the Oil Sands development in Alberta – native communities, provincial and federal governments, business, health management, and science and technology. The story was used to spark students' interest about the effects of oil contamination and the characteristics of water systems.

The catastrophic oil spill in the Gulf of Mexico provided another source of context, and students listened to a CBC *Quirks and Quarks* podcast on the effects of oil distributed through the Gulf aquatic environment.

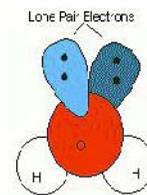
The result of this preliminary study also led to students questioning the effectiveness of techniques described to remove oil from the feathers of aquatic species.

As important background information, students were required to understand the basic properties of water. Because water is highly polarized, it is called the "universal solvent". It will dissolve most polarized substances, which is why there is very little "pure" water on earth (most water contains dissolved substances like salt, calcium carbonate, magnesium). This property also creates the effect of surface tension.

Oil is a non-polarized substance, and therefore does not dissolve in water, and, because it is less dense than water, will float on top of it.

Contamination is the result of substances that come from natural processes (such as dissolving limestone) or human activity (oil spills, road salt, nitrates, phosphates from fertilizer, PCBs, drugs like antibiotics, chlorine, and pesticides).

In order to remove oil contamination from aquatic systems, a variety of strategies are used, including physical barriers (booms and skimmers), oil absorbing polymers, dispersants, burning, and bioremediation (the action of bacteria and fungi, basically digesting it).



Learning Goals

The massive oil spill in the Gulf of Mexico and the ongoing environmental debate surrounding Alberta's Oil Sands are beginning to engage the public about the environmental and social issues surrounding oil extraction. In this activity, students will explore variables that might be changed to improve the removal of oil from feathers. This investigation will help students understand the difficulty of removing oil from a living organism and the issues that arise with water pollution.

Materials and Teacher Notes**Materials Required (per group)**

- hot, cold & room temperature water (approximately 1 litre per group of students)
- liquid Dish Detergent (50 mL each of Dawn and various other brands)
- vinegar (50 mL)
- feathers (12 feathers – 3 replications of 4 treatment levels for each group of students)
- J-cloths (cut into 10cm x 10cm pieces)
- cellulose sponge (cut into 3cm x 3cm pieces)
- chamois-type towels (cut into 10cm x 10cm pieces)
- paper towels (one piece)
- beaker (250 mL)
- measuring spoon (5 mL size)
- spoon (for stirring)
- stopwatch (if needed)
- thermometer (if needed)
- bucket

Materials Required (per class)

- vegetable oil (approx 150 mL)
- cocoa (approximately 100 mL)
- paper towels for cleanup
- Access to sink for water and clean up
- Computer with access to Internet
- Video projector

Pre-Activity Preparation

In preparation for the investigation, the teacher should prepare the materials by cutting up J-cloths, sponges and chamois sheets. It is a good idea to rip off several sections of paper towel to minimize congestion at the paper towel dispenser.

To prepare the simulated “petroleum” mixture, mix 150 mL of oil with 75 to 100 mL of cocoa. Stirring will produce a dark, viscous fluid that is non-toxic and yet visible on the feathers. Storing the mixture in the fridge for several hours before the investigation increases the viscosity.

Activity #1**Preliminary Investigation: Removing Oil From Hands**

The purpose of this activity is to have students investigate how difficult it is to remove oil (non-polar) substances from polarized substances (water). This can be done as a demonstration to save time or as

an investigation in small groups.

Students should be placed in small groups (3 or 4 students) and given the following materials:

- beaker with a small quantity of the oil and cocoa mixture
- hot and cold water
- soap
- paper towel

In each group, one student will pour enough oil mixture to coat their hands. Students can then decide how to best remove the oil. Groups should record their observations on chart paper. Basic observations will then be shared with the whole class.

Activity #2**Whole Class: Providing Media Context for Scientific Inquiry**

The purpose of this activity is to provide an environmental context for oil spills and oil sand projects as well as introducing the concept of the investigation into the best strategy for removing oil from feathers.

Several links to suggested videos (listed at the end of this article) about oil spills and the Alberta Oil Sands will give students the necessary background information for this investigation. Print materials could be substituted here. Students should be exposed to multiple perspectives on the related issues. A list of issues raised should be discussed as a class and recorded for future reference. Next, students should watch the Dawn dish washing detergent commercial to introduce them to removing oil from ducks.

Activity #3**Engaging Students in Scientific Inquiry using Smarter Science Framework**

The purpose of this activity is to have students:

- identify criteria for how they will determine the “best cleaning method”
- explore the materials that will be used in the main inquiry
- discover possible variables that could be tested (strategies for oil removal)
- identify data gathering techniques that could be used
- identify possible problems (i.e. damage to the feather, determining how much oil was removed, etc.) that may arise through their later inquiry.

Before students begin their investigation, have a class discussion on what the criteria for the “best cleaning method” would be. Some thoughts might be:

- quickest
- most cost-effective
- least damage to the feather
- most oil removed
- least amount of materials used

Students in small groups should be provided one feather that has been coated with 5 mL of the oil mixture, paper towels and water. Students will then be asked to remove as much oil from the feather as they can without damaging the feather. Before they begin, students will be asked to record how they chose to remove the oil, how they determined how successful they were at removing the oil, what would be some ways to try to best remove the oil, and what were some issues they encountered (e.g., making a mess)?

At this point, students should select one variable that they would like to investigate (independent variable) and how they will measure the results of their investigation (dependent variable).

Possible independent variables could include:

- cleaning method (scrubbing, rubbing, wiping, soaking)
- cleaning tool (sponge, paper towel, J Cloth, chamois)
- cleaning time
- type of cleaner (type of dish detergent, vinegar, baking soda, hand soap)
- amount of cleaner
- temperature of water

Possible dependent variables could include:

- time required to clean the feather
- damage to feather
- amount of materials required to clean feather
- visual assessment of oil removed

It is important that students engage in a class discussion at the end of this preliminary investigation in order to share their insights.

Activity #4

Conducting the Actual Inquiry

The purpose of this activity is to have students conduct their own investigation into the effectiveness of strategies to remove oil from feathers.

It is important that students clearly identify their independent variable, their dependent variable, and the method they will be using to control all other variables. Working through the Smarter Science posters, Steps 1, 2 and 3 are very helpful for students to identify these variables. Students also need to set up a chart to record their data during the experiment. Teachers are encouraged to use and/or modify the Smarter Science “Steps to Inquiry: Plan, Perform and Record – Steps 7a, 7b, and 7c” for this step. Students should be reminded to keep their feathers to display during a gallery walk for other students at the end of the investigation.

Students in our classes asked to take digital photos of their feathers, and this was an excellent

strategy to illustrate their methods and conclusions. Students also used these photos in their final presentations and blog entries.

Students should be reminded to follow safe lab procedures before beginning the investigation. Total time required for this investigation varied between an hour and an hour and a half, including clean up time.

At the end of the investigation, students need to compare the results of their investigation to those of other students in order to come to a conclusion about the most effective way to remove oil from feathers. Students in our classes used write-and-wipe boards to display their independent and dependent variables, and results of their testing for other students to view. This made it easy for other students to walk around the class to observe other group's results and take notes.

Activity #5

Reporting Results of the Investigation

The purpose of this final activity is to provide an opportunity for each group to present their conclusions and recommendations.

Our classes used a variety of strategies to communicate their conclusions. However, the most engaging for the students was the opportunity to write a blog entry. This way, they were able to read, question, and comment on other group's recommendations, as well as publish their work like the scientific community.

Conclusions

Throughout these activities, students at all levels were highly engaged at all stages of the investigation. One class in particular was reluctant to end the investigation after their first trials. They asked if they could carry out new investigations based on their original findings in order to identify the most effective way to remove oil from feathers. Students' abilities to design and implement their own investigations improved dramatically throughout this process. Students continue to follow the media for reports of aquatic environments being contaminated with oil.

We used a student led inquiry-based approach to student learning. The result was that students' interest was greatly piqued towards the connected environmental issue. Student engagement was extremely high during the activities and helped to facilitate discussions about the issues surrounding oil extraction. We recommend the use of this approach to help challenge students' ideas and values about environmental issues.

Working collaboratively to develop this lesson led to considerable personal growth and improved confidence in facilitating student-led inquiry. We continue to work together on related projects.

(Continued from page 17)

Related Web Resources

Smarter Science (resources used in activities)

<http://smarterscience.youthscience.ca/>

Dawn Soap, Commercial at:

www.youtube.com/watch?v=GGcZrqP4f98

How Stuff Works, Exxon-Valdez Oil Spill,

<http://science.howstuffworks.com/cleaning-oil-spill.htm>

Alberta Department of Environment, Alberta Oil Sands, www.oilsands.alberta.ca/

Toronto Star, Syncrude Trial (with excellent images – near-death ducks-dominate Syncrude pollution trial, www.thestar.com/news/sciencetech/environment/article/774199)

Gulf of Mexico

www.youtube.com/watch?v=XLiqvZOP8TY&feature=related

www.youtube.com/watch?v=68bKMtncSuw&feature=related

Web links may have to be copied into browsers to work.

EcoLinks 2011

OSEE's Annual Conference

April 28 – 30, 2011

Seneca College, King Campus

Sharing ideas and classroom techniques with fellow teachers

Focus is on integrating Environmental Education in all subjects and grades.

Contact: Bill Thompson, Conference Coordinator

Bill.Thompson@OSEE.ca

www.osee.ca

Brad Digweed and Stephanie Minor teach at Central Public School in Grimsby. Bryan Honsinger teaches at Carleton Street Public School in St. Catharines.

Report on the Latornell Conservation Symposium

Anita Payne

The A.D. Latornell Conservation Symposium (www.latornell.ca/program.html) is an annual gathering in November of the Ontario conservation community. It is named for Arthur D. Latornell, who was an Ontario public servant for 35 years working for Conservation Authorities and the Ontario Ministry of Natural Resources. Latornell was known as a “forward thinker and respected conservationist”. He left a sizable bequest to the University of Guelph which generates funds to support scholarships and conservation education. The symposium logo is a tree. The negative space under the tree looks like an older person and a young person studying something on the ground. This is to symbolize Latornell’s belief in the importance of mentoring and teaching.

The theme of the 2010 symposium was *Biodiversity: Connecting people, land and water*.

The Friday morning keynote speaker was Bill Dennison from the University of Maryland. He spoke on the topic of communicating science effectively to engage decision makers. He said that communicating science can lead to social change. He mentioned Copernicus, Galileo, Newton, Linnaeus, Darwin and Einstein among others. The current focus is on sustainability.

Dennison said that you can teach anything to anybody as long as you synthesize data, visualize the key points and provide the context. Then he discussed environmental report cards as effective science communication tools. Everyone understands what a report card is. Report cards synthesize large amounts of data. Environmental report cards have been used by communities to reduce their impact on the environment. Peer pressure is a powerful motivator. Communities compete with each other to improve their environments. Report cards bridge the gap between communities and scientists. [*Conservation Authorities in Ontario use “Watershed Report Cards” to communicate the health of their water systems to their local areas and are useful for student research – Ed.*] Dennison’s presentation can be seen at www.latornell.ca/pdf/2010sessions/2010_Latornell_Keynote_Friday_Bill_Dennison.pdf.

One session I attended was on solutions to enhancing urban biodiversity. The format they use is to have three presenters speak at each session. Robert Orland spoke of a proposal for a project for the city of Guelph to pay the expenses of residents to transform their lawns into gardens of native plants. Chris Earley from

the University of Guelph’s Arboretum showed slides of the arboretum’s Gosling Wildlife Gardens which are designed to inspire the public to install backyard wildlife habitat. Kim Sellers from Evergreen spoke about the types of projects that the national NGO has overseen. They have been involved in urban naturalization projects including many schoolyards. Evergreen has transformed the brickworks in the Don Valley into a year-round environmental centre. One project, called Eva’s Initiatives, gets youth off the streets by getting them to plan and manage vegetable gardens, with the goal of getting them started in a related career. “No plot is too small to sew the seeds of change.”

www.evergreen.ca/

The other session that I attended was called “Impacts of Nature Deficit Disorder” with Richard Louv, from San Diego, CA, a journalist turned into environmental author of *Last Child in the Woods: Saving our Children from Nature Deficit Disorder*. He was also the concluding keynote speaker of the conference. Nature deficit disorder is a term coined by Louv which he stressed is not a medical diagnosis.

It was heartening to hear that Louv was recently invited to speak to the American Pediatrics Conference attended by over 3000 pediatricians. He asked them to use wisdom and common sense. He says that in Canada with our rich outdoors, there shouldn’t be nature deficit disorder. The term has now entered the mainstream: there are now half a million references to it on Google. James Cameron has said that his movie Avatar is about NDD.

Some of the facts Louv presented are startling. Children now average 53 hours per week of screen time. In some schools as many as 30% of the boys are on Ritalin.

Louv would like to know what percentage of disorders and suicides are caused by lack of exposure to nature. There is very little research on this. There are over a thousand studies on pharmaceuticals and ADHD, funded by the pharmaceutical companies of course, but there are only ten studies on nature deficit disorder. The “no child left behind” policy in the U.S., has resulted in taking away the arts and even recess in some schools.



Louv is confident however, that individual wisdom and judgement can spread. He has launched a national and international program to honour natural teachers, i.e. teachers who take their students out-of-doors no matter what subject they teach.

One of the reasons that parents give for not letting their children play outside is the fear of abduction. Abductions by strangers in the U.S. are actually decreasing, but the media focuses on them, feeding fear. Countering this fear, family nature clubs are taking off. There is a download kit on how to start a nature club from the Child and Nature Network website: www.childrenandnature.org/.

Family nature clubs allow unstructured time in the outdoors. Families connect via the Internet to arrange outings. They are more likely to go when others go too; it is great for single parents and good for parents without nature experience and, best of all, no funding is needed. It is group independent play: children make up their own games given the chance. An audience member told us that the Acorn Nature Club in Ottawa has 30 families registered already, after just starting. Louv said that baby boomers have a special responsibility because they are the last generation to remember when it was normal to play outside.

Louv has a new book about getting adults reconnected with nature. It is called *The Nature Principle*. The Canadian version will be out in May.

Louv said that he struggles to get away from electronics and that nature is an antidote. He calls it “vitamin N”. Nature does not have to be wilderness. Having nature nearby is important. He concluded by giving a couple of examples of how cultural and political change can occur: the new Governor of Illinois re-opened six state parks that had been closed and the Chicago Wilderness organization has a “Leave no child inside” campaign. www.chicagowilderness.org/

During his keynote speech Louv presented some interesting results from a study on the nature of playgrounds. The greener the area, the lower the body mass index for kids, independent of population density. Myopia is reduced and motor abilities are improved with more time spent outside. Creativity is improved in naturalized areas.

With natural play areas, the smarter kids are the leaders. Where the playgrounds are flat, the strongest kids are the leaders and become bullies. Students do better in science with exposure to nature. A study of adults has shown that exercise outside has more benefits than treadmill running.

The number of stranger abductions has decreased but the fear is increased due to media conditioning. Parents should teach their kids to take big risks, by starting with little risks. Risks are comparative. Obesity is a huge risk.

Recently Louv talked to 200 students in San Diego. He said that due to the concern about global warming there have been new renewable energy developments, new agricultural initiatives and even biophilic design in architecture where nature is incorporated into the design of buildings. An example is the use of natural light. The students there paid attention to Louv because they heard hope. Too often the message to young people is negative. Louv finished his talk by saying that it is a human right to enjoy the benefits of nature. Indeed life would not exist without the benefits of nature.

A National Nature Play Day is planned in June in the U.S.

In his book he discusses the current disconnect from nature in our society. He cites a number of studies that show that spending time in nature helps to calm children with attention problems and anyone who is experiencing distress. Children who connect with nature grow up to be creative, well balanced adults. He explains the reasons why children do not spend much time, if any, in unstructured play in natural environments. It is due partly to the lack of natural areas in suburban developments, partly to the fears and time constraints of parents, and, perhaps most significantly, it is due to the enormous amount of time that children spend using or watching electronic devices.

Mr. Louv is not against using these devices but he encourages parents to take their children outside and let them engage in free play. The organization that he founded, Child and Nature Network (CNN), has a website to help people get children connected to nature: www.childrenandnature.org/.

One of the initiatives of CNN is to set up family nature clubs in the U.S. and Canada. The idea is that families will be more likely to go out and enjoy nature if there are other families going as well.

Why not suggest to your family to make it a habit of taking a walk together once a week in a natural area near you? It does not have to be wilderness, it could be a city park, or a trail along a river. Invite your friends and neighbours to go along as well.

If you are interested in a career as a teacher, child care worker, medical worker or researcher or if you plan to have children of your own someday, Louv’s book will be of interest to you.

No matter what your career plans are, make a point of including in your life on a regular basis, time spent in nature. It will help keep you healthy – physically, emotionally and spiritually!

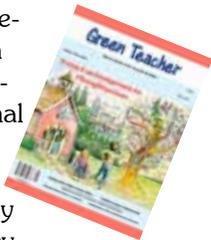
I encourage all teachers to get outside with your students and your own children.

Anita Payne is an OSEE Director and teaches in Stratford.

(Continued from page 9)

Webinars

Green Teacher magazine is hosting a series of evening online seminars this year. The focus of these sessions is meant to be on effective teaching strategies for various areas of environmental education at different age/grade levels, both within, and outside the classroom (for both formal and non-formal educators). The one hour webinars will feature guest experts and are planned to have approximately 20-30 minutes of presentation, followed by 30-40 minutes of questions for the presenter. They are free, but donations are welcomed. Suggestions for topics were solicited by online survey. The first webinars begin this month – greenteacher.com.



EEON News

Environmental Education Ontario (EEON) is an organization that works to advance Environmental and Sustainability Education throughout Ontario. EEON maintains an online forum, the EEONlist. It is a vehicle for environmentalists to communicate in the province. Subscribers can post information, environmental philosophy, questions and comments about resources, articles, events, conferences, courses, summer institutes, teaching ideas, and web sites. The organization has recently updated the listserv to keep the format of contributors' submissions and will accept attachments. To subscribe, send a blank email to eeonlist-join@list.eeon.org. The old list will be maintained temporarily and current subscribers are asked to switch over to the new listserv. To post to the listserv, check the guidelines for submissions at eeon.org and email your message to eeonlist@lists.eeon.org. The moderator will review and post your message.

EEON also hosted a panel presentation and discussion entitled *Environmental and Sustainability Education: Are We Making Progress?* at OISE on January 11th. The panelists included Ron Ballentine, from Halton District School Board and STAO; David Bell, from Learning for a Sustainable Future; Hilary Inwood, from OISE; Catherine Mahler, from the Ministry of Education; and Cameron Smith, a retired environmental columnist with the *Toronto Star*. Summary notes from the event are online at eeon.org.



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Athletes inspiring action for the environment

ÉcoResponsables en Tricycle

Mounir Ferrag

Projet dans le cadre d'un cours au secondaire et/ou à l'élémentaire

Lien avec le curriculum :

Sciences de l'environnement, sciences générales, sciences de la santé, éducation physique et santé, études sociales (vie communautaire et responsabilités), langues (communication orale : stratégies d'écoute et de prise de parole), éducation artistique (démarche de création), arts en général et leadership.

Le Projet est basé sur des activités visant à développer le sens des responsabilités des jeunes vis-à-vis de la protection de l'environnement. Il s'intègre bien avec le nouveau curriculum du programme d'éducation environnementale du ministère de l'Éducation de l'Ontario, incitant les élèves à sortir de la classe pour apprendre sur l'environnement et ce entre autres, par le biais de projets communautaires.

La stratégie visée repose sur l'engagement des jeunes à collaborer ensemble pour appliquer ce qu'ils apprennent dans leur milieu de vie. Par conséquent, les activités de ce projet servent de moteur pour stimuler les élèves à s'impliquer dans la communauté pour protéger l'environnement.

Ce projet consiste en la création d'une structure conduisant les élèves des niveaux élémentaire, secondaire et universitaire à travailler ensemble dans le cadre de la mise en œuvre d'un projet environnemental.

Le leadership peut-être assumé par des étudiants du niveau universitaire, ces étudiants en éducation organisent des ateliers portant sur des

éléments précis de l'environnement choisis au départ du projet pour des élèves du secondaire qui à leur tour forment les élèves de l'élémentaire.

Le tout est supervisé et coordonné par des enseignants et un coordonnateur d'une communauté verte de la région.

Étude des infrastructures

Les étudiants étudient ensemble les infrastructures, participent à des discussions et travaillent à développer la structure générale des événements qui auront lieu dans les écoles élémentaires.

Lors des ateliers, les élèves de l'élémentaire des autres écoles sont appelés à visiter des stations reliées par des parcours dans lesquelles des activités, en relation avec le thème choisi, seraient animées par des élèves du secondaire.

Modèle de l'événement

Conception par les groupes d'élèves animateurs

- Conception et montage d'un parcours écologique.
- Conception et montage d'un mini-Ecovillage avec des stations représentant des édifices (ex : école, hôpital, centre de recyclage) reliées entre elles par des parcours écologiques (piste cyclable, piste marche à pied).
- Les visiteurs doivent explorer les différentes stations en traversant les parcours selon des règles écologiques déjà établies.
- Le travail doit comprendre un plan et une maquette à l'échelle.
- Le plan doit comprendre les éléments nécessaires pour le développement d'une économie et d'un environnement soutenable.

Activités Centrales

Étape 1 : choix du thème écologique Tricycle (exemple : le transport actif)

Étape 2 et centrale : Choix des stations avec des thèmes en relations avec le transport actif et choix des parcours respectifs.

Quelques pistes:

- Créer une liste des éléments d'un écovillage (écoles, pompiers, banques, hôpitaux, bibliothèques, station de recyclage, théâtre, salle de spectacle)
- Décider de ce qui est nécessaire pour qu'il soit soutenable.
- Décider comment le transport actif par exemple sera intégré.



- Considérer les besoins énergétiques de la population et de l'industrie.
- Considérer les besoins de ressources naturelles comme par exemple : l'eau, le bois, la nourriture.
- Définir les distances des parcours de l'écovillage village et mettre à l'échelle pour calculer les distances lors de l'événement.
- Faire un dessin – plan (ébauche)

Étape 3 : Construction de la maquette des stations et du parcours qui servira de base pour l'événement environnemental du projet Tricycle.

Quelques pistes:

- Construire la maquette à l'échelle du village avec matériaux qui sont recyclés et disponibles, que ce soit bois, carton, plastique, métal ou autre.
 - Présenter la maquette lors de l'événement.
- Étape 4 :** Construction et montage du village écologique (stations, parcours etc.) à l'échelle réelle au sein de l'école par les groupes d'élèves organisateurs.
- Prendre le plan où se déroule l'événement, transférer les données du plan de l'écovillage pour que celui-ci coïncide avec l'espace choisi.
 - Construire les stations et les parcours de l'écovillage avec matériaux qui sont recyclés et disponibles, que ce soit bois, carton, plastique ou autre.

Étape 5 : Cibler des groupes visiteurs

Étape 6 : Acquisition de couverture médiatique pour l'événement.

Étape 7 : Fixer une date de l'événement finale ainsi que la durée.

Étape 8 : Composer une chanson écologique avec des paroles en relation avec le thème et la chanter ensemble durant le jour de l'événement.

Étape 9 : Après le succès de l'événement, organiser un spectacle de remise de certificats aux participants.

Groupe ou personnes contact pour plus d'informations et de renforcement sur le projet :

- groupe ÉcoResponsables : École secondaire Étienne-Brulé (écoresponsables@Gmail.com)
- Denise Petitpas : animatrice culturelle- csvia-monde (petitpasd@csviamonde.ca)
- Gabriel Sirois : coordonateur francophone de green communities (gsirois@greencommuniti-escanada.org)
- Mounir Ferrag : enseignant en sciences et coordonnateur des ÉcoResponsables (ferragm@csviamonde.ca)

Mounir Ferrag, École secondaire Étienne-Brulé, Toronto



Phase de préparation



Phase de préparation-
montage des stations



Atelier de musique
environnemental



Cérémonie de remise de
certificats

Let's 'Dream the World We Want'!

Roberta Oswald

Back in October of 2010, I had the pleasure of attending an appreciation dinner for volunteers of the David Suzuki Foundation. This was also in honour of the 25th anniversary of this amazing organization. David Suzuki himself was present and he spoke to us about his appreciation for all the hard work the volunteers had accomplished, along with the present state of the planet. I listened to him in awe, as usual. But what struck me the most was how David emphasized that we need to dream the world we want; if we dream it, know what it should look like, we might be more successful in making the kinds of changes necessary to maintain the integrity of our planet, our home.

I took this message to heart. As an educator of 25 years though, I extended this idea and decided to ask the students of my board, what kind of world did they dream of; how did they envision their future. After all, it will be these young people who inherit the planet from us. I set out to collect one hundred DREAMS from students in grades 9 to 12. As I began to receive their messages, I was struck by the variety, depth, sincerity, empathy and passion of their dreams. I was not surprised though; this future generation of ours, in many ways has a better understanding of the plight of our planet than the average adult. Please take the time to read through these dreams and begin to DREAM the WORLD You WANT!

1. My dream for the world is to have everybody, especially teenagers, care about the world.
2. Let there be peace on Earth and let it begin with me.
3. My dream for the world is for everyone to see the beauty and realize the importance of every living creature on Earth.
4. I wish that the world can be resurrected from its present terrible state.
5. I envision a world that cares more about people than money.
6. I dream of clean air, clean water and clean soil.
7. My dream is that all of our schools have trees and a place to observe nature in their school grounds.
8. Wouldn't it be wonderful if Nature and people could live in harmony.
9. My dream is to have everyone use renewable energy.
10. My dream is to see the world smile.
11. My dream for the future is to have less species on the endangered species list.
12. My dream: **for war to stop**. It doesn't just harm people but harms the health of our world.
13. I dream that one day everyone will have respect for our world and take care of our environment.
14. My dream is that people wizen up and look at the facts when it comes to environmental and ethical decisions.
15. My dream is that as time passes there are less and less endangered species in the world due to the positive actions taken by our youth today.
16. My dream is to stop the use of cars and instead go back to bicycles or horseback riding. It would not only decrease pollution, but promote physical activity as well.
17. My dream is that due to our youth's actions conserving water, it will remain a usable resource for all.
18. Let's deactivate all nuclear weapons.
19. I dream of the day when everyone becomes aware of their surroundings and takes the time to enjoy the greatness of Earth.
20. To stop factories from polluting the air.
21. I'd love to find a way to have vehicles run on water power.
22. I dream that everyone can smile and be free.
23. I have a dream that I will have more to provide my children than what I have consumed myself.
24. Is it possible that throughout North America there are bottled Water Free Zones.
25. My dream is for everything to run on renewable energy resources so that we have cleaner air.
26. To stop global warming and save polar bears.
27. My dream is to have a better future for my children.
28. My dream is to have all the water bottle companies shut down.
29. My dream is to stop cutting down trees. (bamboo grows faster)
30. I'd like to see the world recycle more and limit garbage production.
31. My dream for the world is for all nations to come together in peace and harmony and help each other in times of need.
32. We all need to be aware of what we ship over to other countries for them to recycle.
33. Animals should not be used for testing human products.

34. My dream is for all cars to run on clean, renewable resources.
35. My dream is for the world to be a clean and safe environment.
36. My dream for the world is to have more people like Jane Goodall and David Suzuki.
37. My dream for the world is to have a planet free of pollution and with green energy sources.
38. When I have my own children, I want them to have a peaceful world with plenty of nature.
39. My dream is to have the world bottled water free.
40. I dream of a world where 'zero-waste' becomes a mantra.
41. My dream for the world is for everyone to learn from Mother Nature.
42. I see a world energy system that is self sustainable and cheap to use.
43. Food and water sovereignty for all!
44. An end to factory farms and mistreatment of our animals.
45. I wish our planet Earth could go back in time to be free of all kinds of pollution and that humankind could embrace our mother nature as it is, our mother.
46. I dream of a world where polar bears and panda bears are safe.
47. My environmental dream is to have a planet where people can have clean water for free.
48. That becoming green becomes a subconscious effort rather than a conscious one.
49. I dream of a world where all life—human, plant and animal is respected.
50. My dream is to have our waterways cleared of oil and garbage.
51. I dream of a world without garbage.
52. I wish that people could appreciate the beauty and simplicity of our mother nature, so they could take care of it, and we could all live in peace.
53. My dream is for the right to water for everyone, every species.
54. My dream is for everyone to pick up their litter and dispose of it properly.
55. I'd love to see a park dedicated to eco-friendly environments and activities.
56. A world that is free of harmful chemicals.
57. I want 'SNOW in NOVEMBER' back.
58. I dream that hybrid or eco-friendly cars become more affordable.
59. Let's dream of a public transport system that is accessible and attractive for everyone.
60. I dream of a world where I might see deer out my backyard.
61. My dream for the world is for reduced global warming and cleaner air to breathe.
62. I wish for all the beauty in the natural world to be around for future generations to enjoy.
63. My dream is for human beings to stop being so selfish.
64. I dream of going for long, peaceful walks in forests and seeing lots of wildlife.
65. Living in a toxic-free world.
66. A world that does not need to use any oil.
67. My dream for the future is when all products are made from reusable or recyclable materials.
68. My dream is for our Native Peoples to have access to clean, free, water.
69. My dream for the future is to have no poverty.
70. Let's dream of a world where farmers grow food properly without so many chemicals.



Students from James Cardinal McGuigan and St. Patrick Secondary School, Toronto Catholic District School Board (TCDSB), sharing their *DREAMS We WANT for the WORLD* with students from 15 other TCDSB schools at the annual Environmental Youth Forum



Let's 'Dream the World We Want'!

71. My dream for the world is that people be compassionate, understanding and caring for all life.
72. My dream world includes more wildlife.
73. My dream is for us not to use and abuse our natural resources. They should not be taken for granted.
74. My dream is to stop extinction RIGHT NOW!
75. My dream is that one day the people of this planet will open their eyes and see the damage they are causing and then to hold hands and make the planet beautiful again.
76. For every single person, male, female, child, elderly to be granted the human rights they deserve.
77. My dream is to have people and the planet not exploited for the sake of money.
78. My dream for the world is to have oil companies more cautious and accountable for their actions and drilling in order to stop ALL future oil spills.
79. My dream for the world is to end all wars.
80. My dream for the world is that people make lifestyle choices not for their convenience but for the well-being of the planet and future generations.
81. I dream that there will be natural places left for me and others to visit.
82. My dream is for world peace.
83. My dream is for the world to stop habitat destruction.
84. My dream for the world is for us to all work together to help this planet.
85. My dream is for a government that is not afraid to make the right decisions.
86. My dream for the world is that we can cut down on CFCs and CO2 emissions so that we can repair our ozone and halt global warming
87. My dream for the world is to not lose any more species.
88. My dream is that everyone is treated fairly and equally.
89. My dream is to see most buildings running on solar panels.
90. I wish that more people realized that action have consequences and to therefore think carefully of their actions.
91. My dream is for everyone to purchase eco-friendly cars.
92. I've heard of days in the past, when birds darkened the skies by their numbers. I dream of those days to return.
93. My dream is for all people to overcome their differences, come together and heal the world.
94. I have a dream where everyone has respect for others and cares for the Earth that sustains us.
95. I wish that planet Earth will still be here for future generations, so that they too can enjoy the beauty that this planet has to offer, and that it starts with change TODAY!
96. My dream for the world is for all of us to become more eco-friendly as the years go by.
97. I'm dreaming of a world where our parents and other adults understand that everything they do right now is affecting our future and the future of our planet.
98. I dream of a future in which everyone is aware of environmental issues and everyone is committed to doing their best for the welfare of the planet and all of humanity.
99. My dream for the world is to reach a state where we don't have to dream about what is right because it just happens!
100. My dream is to actually have the government pay attention to us and work towards our dreams.

Last year, just before the Copenhagen Climate Change Summit, I compiled a list of 350 various actions that students in our school board from Kindergarten to Grade 12 had taken to reduce the school's carbon footprint. This was in response to the www.350.org call to action. I mailed this list to our government to indicate that our youth are determined to play their role in keeping climate change at bay. I challenged the government to be as responsible. Unfortunately I did not receive a response from the Conservative government, not even an acknowledgement. I will be sending this list out to them as well. Let's hope that this time they show responsibility. In particular let's hope they read Dream #100.

Roberta Oswald, Elementary Science and Environment Resource, Toronto Catholic District School Board 416-222-8282 x2719
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laire utilisé par des politiciens et les gens d'affaires, et nous l'avons accepté aveuglément. Pourquoi? Parce que l'alternative est effrayante... compression, vivre avec moins, prendre plus de travail physique, abandonner les voyages de plaisir, abandonner nos jouets (La souffleuse à neige? Le plus nouveau morceau de technologie numérique? Même ma pagaie de fibre de carbone?).

Que veut dire la nature séduisante de la durabilité pour l'éducation environnementale, et pour nous les éducateurs? Bien, je pense qu'il est important de devenir et de rester au courant. Lisons, observons, écoutons, et enseignons à nos étudiants à lire, observer et écouter. Enseignez-leurs à s'interroger, à se renseigner et voir au delà d'eux-mêmes et de leurs propres petits mondes. Modelez et enseignez la prise de décision. Devenez ceux qui facilitent des actions sages localement, basées sur des situations globales. Puisque soutenir le trajet que nous suivons actuellement n'est pas..... soutenable.

- 1) IUCN/UNEP/WWF (1991). "Caring for the Earth: A Strategy for Sustainable Living." Gland, Switzerland.
- 2) McKibben, Bill. (2010). Earth: Making a Life on a Tough New Planet. Alfred A Knopf, Canada.
- 3) United Nations General Assembly (1987) Report of the World Commission on Environment and Development: Our Common Future. Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment.

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OSEE Awards

The OSEE Awards committee solicits nominations for the following awards to be presented at the annual spring conference.

The criteria for these awards are listed below. If you wish to submit a nomination, please contact the Awards Committee chair, Sherri Owen before April 1st (see form in insert below).

OSEE Fellow

This highest level award is quite difficult to attain. In some years no fellows will be appointed. The evaluation criteria are as follows, the first two being absolute and the next four being more heavily weighted than those remaining. The candidate shall: be a current member of OSEE and have at least ten years of continuous membership in OSEE

- Have done meritorious service to OSEE
- Have done meritorious service at the school board or federation level
- Have shown sustained interest in OSEE as shown by active participation over many years
- Have been an outstanding teacher and leader of environmental educators
- Have contributed to environmental education in Ontario and/or nationwide (including publications)
- Have participated in other scientific and/or geographic societies
- Have been recognized by other organizations, thereby bringing honour to OSEE

Excellence in the Teaching of Environmental Education

May be offered annually to one or more persons who will be selected primarily on the basis of outstanding performance as environmental educators. Outstanding services of the following types might also be considered:

- Active leadership and scholarly endeavor in environmental education over an extended period of time
- Unique and extended accomplishments in environmental education
- Direct and substantial contributions to large scale improvement in environmental education

Leadership in Environmental Education

May be offered annually to one or more persons who have demonstrated outstanding leadership in environmental education for at least five years. This is not an award for recognition of classroom teaching but it does not exclude the selection of classroom teachers. This award is open to university and college faculty, classroom teachers, consultants, supervisors, publishers, and others deemed suitable by the Awards Committee. This award is designed to recognize direct and substantial contributions to the large scale improvement of environmental education at any level in the formal education system.

OSEE Service Award

May be offered annually to one or more persons who have made outstanding contributions to OSEE over an extended period of time. Contributions should include some of the following:

- Several years service on the Executive Committee
- Service on the Conference Planning Committee
- Significant and substantial contributions to *Interactions* over an extended period of time
- Service on the Editorial Board of *Interactions*
- Conducting regional workshops on behalf of OSEE
- Service on provincial curriculum committees as an OSEE representative

OSEE Awards Nomination Form

Please copy the text below and paste into an e-mail addressed to sherri.owen@osee.ca. List "OSEE Awards" in the subject line. In the body of the email fill in the required information.

- Completed forms are due by April 1
- Nominators will be contacted when a decision is made and invited to inform the winner

Thank-you for your time and for helping us recognize excellence.

Your Name:

Your E-mail:

Include the award from below for which the person is being nominated (delete others):

1. OSEE Fellow
2. Excellence in the Teaching of Environmental Education
3. Award for Leadership in Environmental Education
4. OSEE Service Award

Name of Nominee:

Position the nominee holds that is relative to the award:

Please describe why you have chosen this person to be nominated:

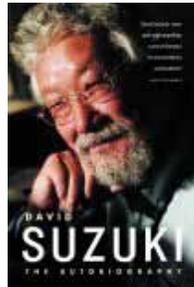


Book Review

Holly Groome

David Suzuki, *The Legacy: An Elder's Vision for our Sustainable Future*, Greystone Books: Vancouver, 2010, 109 pp. \$25.00. ISBN 978-1-55365-570-1

If you had one last lecture to give, your life legacy to leave, what would it be? One of Canada's preeminent elders shares his wisdom and hope for our planet. Originally delivered at the University of British Columbia in December 2009, Suzuki's Last Lecture passionately argues that the laws of nature far outweigh the forces of our socio-economic political structure. As witness to change and change maker himself, Suzuki eloquently expresses his concern for our species and our lack of acceptance of the long-term consequences of such naïve and arrogant behaviour. He suggests that the continued success of this "super-species" is due in large part to our ability to draw from experience and knowledge to create the foresight needed to build our own future. Unfortunately, as our species has dominated the planet we have forgotten what put us here in the first place.



Suzuki describes his own personal struggles and success growing up as a Japanese-Canadian through both times of war and peace. His love of nature began as a small boy and weaves a thread through his entire life journey where today, as a grandfather, he is charged with the responsibility of "wisdom-keeper, story-teller and planet protector."

A glimpse into what made this famous outspoken Canadian environmentalist, *The Legacy*, is a must read. As Suzuki states, "All it takes is the imagination to dream it and the will to make the dream reality." A pointed tale of what we are doing to our Planet and where we should go to save our home.

Holly Groome is OSEE's Northern Region Director and teaches at Huntsville HS

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What the Howl: Algonquin Park's Wolves

The last time I was in Algonquin Park, a little over 12 years ago, I picked up as many copies of *The Raven* as were available. For those of you who don't know what *The Raven* is, it is the visitors' newsletter of the Park. Prophetically, I also saw a wolf crossing Hwy. 60, east of the Park entrance.

The copy of *The Raven* that caught my eye is about Algonquin Park's most famous animal, the Eastern Canadian Wolf, *Canis lycaon* (*The Raven* 38(2) June 26, 1997). The story asks the important question: Is Algonquin Big Enough For Its Most Famous Animal? At about 7725 square kilometers, Algonquin Park, Ontario's oldest park, should be big enough for any animals.

Wolves are social animals, living together in small groups, but they travel extensively to find food. Wolves in Algonquin Park eat three primary prey species: White-tailed Deer, Moose, and Beaver. Wolves prey primarily on White-tailed Deer, but both Moose and Beaver are very important secondary food sources, and may be the primary food sources at certain times of the year.

Officially, wolves in Ontario are in no risk of extinction. The *Raven* article points out that, despite what we'd like to believe, Algonquin is not a "wolf island". There are wolves from around Sault Ste. Marie as far east as Quebec City. The area around Algonquin also has its own wolves and may actually serve as a source for Algonquin wolves.

But in and around the Park, their situation is much more precarious. The factor that could tip them off the edge is conflict with humans. That conflict came to a head in the early 90s, and there was no doubt who was winning. One of the

foremost experts on Algonquin's wolves, Dr. John Theberge of the University of Waterloo, working with his wife Mary, until his retirement in 2000, proposed that the protection of wolves be extended 10 km beyond Park boundaries. In the 11 years of the Theberges's study, the wolf population on

the east side of Algonquin Park declined drastically. Entire packs disappeared from the landscape.

Killing by humans not only reduces the numbers, it disrupts the structure of the packs. This matters because the survival of wolves tied to their ability to act co-operatively. When experienced elders are lost, packs are less efficient at hunting and finding the best travel routes.

Dr. Theberge was concerned that the protection afforded the wolves by the eastern part of the Park in the summer was obviously useless in the winter when those same wolves followed the deer on their annual migration out of the Park to the Round Lake deer yard on the eastern side of the Park. In December 1993, after five years of lobbying, they achieved that goal, in part. Ministry of Natural Resources officials agreed to ban wolf hunting and trapping in Hagarty, Richards, and Burns townships, the three bordering the southeast corner of the park, during the time the wolves normally use that area, December 15 to March 31. In 2000, a report by the Algonquin Wolf Advisory Group provided a new framework for the study and protection of wolves in and around the Park.

We, as citizens of Ontario, and as environmentalists and educators, must work diligently with Algonquin Park's naturalists and scientists to protect its most famous mammal.

For those of you interested in reading more about wolves in Algonquin Park:

Is Algonquin Big Enough For Its Most Famous Animal? *The Raven* 38(2) June 26, 1997.

Factors limiting population growth of wolves in Algonquin Park: www.sbaa.ca/projects.asp?cn=314

The Wolves of Algonquin Provincial Park: A Report to the Honourable John C Snobelen, Minister of Natural Resources by the Algonquin Wolf Advisory Group. Dec. 2000. www.mnr.gov.on.ca/stdprodconsume/groups/lr/@mnr/@fw/documents/document/mnr_e001295.pdf

Wolf Country: Eleven Years Tracking the Algonquin Wolves (McClelland and Stewart, 1998) by John B. Theberge with Mary T. Theberge

Mike Morris is Chair, Editorial Board, *Interactions: The Ontario Journal of Environmental Education*



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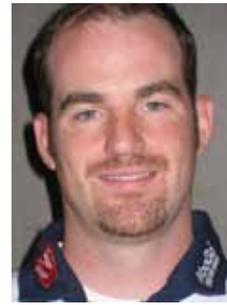
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Information & Registration - Delegates

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www.osee.ca

Contact Conference Chair, Bill Thompson at:
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OSEE Conference Registration

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