

INTERACTIONS

The Ontario Journal of Environmental Education

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



VOLUME 23, NUMBER 2

WWW.OSEE.CA

DECEMBER 2010



Published by the Ontario Society for Environmental Education

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, Mike Morris, Ray Clement, Anita Payne.

Articles may be used by OSEE members for classroom use only. Those wishing to use articles for any other purpose must first obtain permission from Mike Morris, Editorial Chair.

Contributions are invited and should reach the Chair of the Editorial Committee, Mike Morris, two months prior to the publishing date by E-mail. Photographs and other graphics should be sent separately in JPG files, not embedded in Word documents.

Opinions expressed in the articles are not necessarily the views of OSEE unless they are expressly recognized as such.

Artwork Credits: Front cover drawing by Leslie Foster.

French translations: Diane Boulanger, Peel District School Board

Disclaimer: The information offered in *Interactions* consists of suggestions or recommendations for your consideration, adaptation to your particular situation, and possible use. This information is neither official OSEE policy nor legal requirements, unless it is specifically identified as such. Opinions, instructions, and conclusions are those of the individual contributors, not of OSEE, unless otherwise specified. Though considerable effort is made to ensure that the information is as correct and complete as possible, neither OSEE nor the individual contributors can guarantee in any way the correctness and completeness of the information. Further, because of the diverse circumstances under which the information may be used, neither OSEE nor the individual contributors can guarantee that all essential safety measures and warnings accompany each article. As a result, OSEE and the individual contributors disclaim any liability in negligence or otherwise for any form of injury, damage, or loss which results from the use of the information in *Interactions*. The user should ensure that instructions, warnings, and safety measures are appropriate for your particular situation.



Interactions Then and Now
CD collection of back issues of
OSEE's journal

OSEE Board of Directors

2010-2011

Executive Members:

President:	Sherri Owen
1st Vice-President:	Cathy Grant
2nd Vice-President:	John Howden
Past President:	
Secretary:	Ellen Murray
Treasurer:	Linda Borland
Membership Coordinator:	Ellen Murray
Editorial Chair of <i>Interactions</i> :	Mike Morris
Editor of <i>Interactions</i> :	Bill Thompson
Web Coordinator:	James Creech

Board Members:

Regional Directors:

Eastern Region:	Diana Brushey
Central Region:	Gwen Layton
South Western Region:	
Northern Region:	Holly Groome
Far Northern Region:	Beth Dasno
Directors-at-Large:	Diane Beckett
	James Borland
	Ray Clement
	Anita Payne
	Karen Heisz

ad hoc positions:

Conference Chair:	Bill Thompson
Archivist:	Sandra McEwan
French Consultant:	Holly Shaw
University Liaison:	
OTF Representative:	Ellen Murray

Contact executive members: e-mails are listed at www.osee.ca/contact.htm

Interactions Complete Set - 1988 - 2008

CD Contents

Archives: All *Interactions* journals from Vol. 1-1, September, 1988, to September, 2008, Vol.: 21-1, in PDF format.
Contents PDFs: PDF copies of the "Contents" pages of each issue to help find articles of interest.
Ecozoic Curriculum: Integrated lesson activities for secondary schools developed from 1992 – 1993. A curriculum project originally sent to all secondary schools. Use where applicable following your professional judgement to match with current expectations.
Environmental Education Articles by Mike Morris
OSEE Information/History: Conference leaders and presidents
E3 Resources – Energy and Climate Change activity guides
Adobe Reader 8: Free PDF viewing program
Updated issues to present will be supplied by e-mail
Cost: \$20, plus \$2 shipping, Contact Bill.Thompson@OSEE.ca



Columns

Editor's Notes.....	3
Mike Morris	
President's Message:	4
Sherri Owen	
Message de la présidente :	5
Sherri Owen	
Interruptions: Removing a Student from Their Cell Phone or iPod Is Not for the Faint of Heart.....	6
Enlever un téléphone cellulaire ou un iPod d'un élève n'est pour les faibles de cœur	7
Astrid Steele	
Environmental Education FYI	8
Andrew Boughen	
Media: Oil Spill Lessons.....	10
Ellen Murray	
Nature Story: Barney and Betty Beaver – a Love Story	11
Allan Foster	
Book Review: Emotional Intelligence	25
Sherri Owen	
Meanders: The Story of an Autumn Flower.....	30
Mike Morris	
OSEE Executive and Board 2010–2011 ...	31
<i>EcoLinks 2011</i> Information/Registration.....	32

Features

Should We Go to Conferences? Under Western Skies: Climate, Culture, and Change in Western North America	13
Bill Thompson	
The Transformation of Energy	14
Sherri Owen	
Sustainability and the Second Half of Oil	22
Elise Houghton	
A Partial History of Ontario-Based Outdoor Education.....	26
James Borland	

Editor's Notes



Mike Morris

As I look out my office window on this December morning, a bright sunny sky greets me. However, this is a bit deceptive as London has just finished digging out from a big snowfall. I'm sure you've seen something about it on media outlets.

How many of you had heard of Wikileaks before 2010? I still haven't seen the site, but I've heard a huge amount about it. Speaking of technology, Astrid Steele's column is about the challenges of asking high school students to give up their cell phones, iPhones, etc. during a five day trip wilderness trip. As teachers or parents, do you struggle with the place of these omnipresent devices in your home or classroom?

James Borland has written part of the history of outdoor education in Ontario in this issue. To me, this makes compelling reading because I lived through much of this time while working in outdoor education in Ontario. This included two work stoppages, one of which was in the middle of a very frosty winter. Overall, James's article brings back many good memories for me.

Elise Houghton has written an article about the second half of oil. That means how are we, as a society, going to deal with a world's supply of oil that may already have peaked.

Speaking of energy, Sherri Owen presents a lesson for elementary teachers about the transformation of energy that includes some information about the first two Laws of Thermodynamics.

Bill Thompson reports on reasons for and benefits of attending a climate change conference in Calgary where the tar/oil sands was a major focus.

Two of our regular columns, Sherri Owen's President's Message, and Astrid Steele's Interruptions column also have French translations in this issue!

In Andrew Boughen's FYI column, there is a piece about the recent purchase of the former Boyne River Natural Science School by the Bruce Trail Organization from the Toronto District School Board. I spent many happy times teaching at Boyne River. I started at Boyne before I went to Queen's Faculty of Education in September 1986 and finished there when the school was closed for good in March 2003. I am pleased that Bruce Trail will be making good use of this property, but I am also reminded of all the dedicated staff that taught there and the others that maintained that fine property. I skied on Boyne's trails, climbed on its ropes course, skated on its frozen pond, and crossed the river on rope ladders, all with students from Toronto.

Mike Morris is Editorial Chair of *Interactions*



President's Message

Sherri Owen

With the beginning of harvest season I am finding myself awash in homegrown produce. Storing this food safely and conveniently is an annual challenge. Until this year I depended largely on freezing food. However, I have become increasingly dissatisfied with using plastic bags.

The ads may say that a diamond is forever, but the same could be said for plastic. Being durable makes plastic useful, but it also makes it an environmental nightmare. The natural world has efficient systems that recycle everything. What is one species' trash is another's food. Human manufactured materials often exist outside those systems; nothing eats plastic. Sunlight and mechanical damage will break down plastic into smaller and smaller pieces so the problem may appear to be gone. In reality the small pieces of plastic that result are able to infiltrate the food web and damage the animals that eat them.

The most dramatic outcome of our use of plastics is the Great Pacific Garbage Patch. In the middle of the Pacific ocean, where global currents swirl together a large island of plastic debris drifts and floats and circulates. Animals in the ocean have been found to have died as a result of eating the indigestible plastic flakes; their systems blocked, and clogged, and perforated. Recently a similar island of trash has been found in the Atlantic.

In addition, all human made materials are at risk of being toxic. Natural materials have existed for millions of years and humans have adapted to them. New synthetic materials have been tested over years or maybe decades. These time frames are very short and we are acting as guinea pigs for testing the long-term effects. Remember the sudden surprise of BPA? For years and years it was considered safe, then new information revealed it to not be. Many new materials are, no doubt safe, and innocuous, but as often as possible I choose to use the materials that have been tested on the public for thousands of years, not just a few.

I reuse my plastic bags, but one hole and they become useless for food. Then, I recycle them. But recycling plastic results in a lower grade product and eventually the plastic is no longer useful. The point is that, eventually, the plastic baggies will end up in the trash, and stay there for a million years. Increasingly I am seeing any use of plastic as short sighted and unsustainable.

So, I bought a pressure canner. Now I can safely store a wide variety of produce, soups and even meat in reusable glass containers. Home canning may not be for everyone, but other non plastic options do exist. A visit to Fake Plastic Fish online (fakeplasticfish.com) was a real revelation about non-plastic storage options for food. The steel and glass containers cost much more than plastic, but they will remain usable as food storage for longer and steel can be recycled into high quality products endlessly.

I have reviewed the book *Ecological Intelligence* for *Interactions* this issue. Many of these issues are addressed in that book. In *Ecological Intelligence* the author proposes having products scored according to their environmental, health, and social impacts. This would empower consumers to use their purchasing choices to exert pressure on companies to improve their practices and their scores.

In an admirable effort to reduce plastic waste, the company that makes Sun Chips recently introduced a totally biodegradable bag. However, the bags have recently been discontinued in all but one flavour of chips. Consumers refused to buy the new bags because they crinkled too loudly. In this case, convenience and comfort outweighed environmental concerns for the majority of consumers. As individuals, and as a society, we are going to have to make choices about convenience and health and sustainability. The consequences of these decisions may be hanging around for centuries.

Below, find online articles discussing the Pacific Ocean Garbage Patch, its Atlantic sibling, and BPA. Hub Pages: hubpages.com/hub/Pacific-Ocean-Garbage-Patch

www.cbc.ca/technology/story/2009/08/28/great-pacific-garbage-patch.html - CBC

The Globe and Mail: www.theglobeandmail.com/news/technology/science/a-sea-of-synthetic-trash/article38268/page1/

Toronto Star: www.thestar.com/news/world/article/796008--first-the-great-pacific-garbage-patch-now-the-great-atlantic-patch

Scientific American: www.scientificamerican.com/article.cfm?id=plastic-not-fantastic-with-bisphenol-a



Message de la présidente

Sherri Owen



Avec le début de saison de la récolte je trouve moi-même baigné dans les produits de chez nous. Le stockage de ces aliments de façon sécuritaire et pratique est un défi annuel. Jusqu'à cette année, j'ai largement utilisé la congélation des aliments. Cependant, je suis devenu de plus en plus insatisfaite avec l'utilisation des sacs en plastique.

La publicité peut dire qu'un diamant est éternel, mais la même chose pourrait être dit pour le plastique. Être durable rend le plastique utile, mais il devient aussi un cauchemar environnemental. Le monde naturel a des systèmes efficaces qui recyclent tout. Les déchets d'une espèce est de la nourriture pour une autre. L'homme construit des matériaux qui existent souvent en dehors de ces systèmes; rien ne mange le plastique. La lumière du soleil et des dommages mécaniques décomposera le plastique en morceaux de plus en plus petits de sorte que le problème peut sembler avoir disparu. En réalité, les petits morceaux de plastique qui en résultent sont en mesure de s'infiltrer dans la chaîne alimentaire et causent des dommages aux animaux qui les mangent.

Le résultat le plus spectaculaire de notre utilisation de matières plastiques est la Plaque de déchets du Pacifique. Dans le milieu de l'océan Pacifique, là où sont les courants de turbulence mondiaux, une grande plaque dérive et des débris de plastique flottants circulent. Les animaux dans l'océan ont été trouvés morts à la suite de l'ingestion des flocons de plastique indigestes; leurs systèmes bloqués et bouchés et perforés. Récemment, une plaque de déchets semblable a été trouvée dans l'Atlantique.

De plus, tous les matériaux que l'homme fabrique posent le risque d'être toxique. Les matériaux naturels existent depuis des millions d'années et les humains se sont adaptés à eux. Les nouveaux matériaux synthétiques ont été testés au cours des années ou peut-être des décennies. Ces délais sont très courts et nous agissons comme des cobayes pour tester les effets à long terme. Rappelez-vous la surprise du BPA? Pendant des années, il a été jugé sûr, puis les nouvelles informations révélaient que ce n'était pas le cas. Beaucoup de nouveaux matériaux sont sans aucun doute sûrs et sans danger, mais aussi souvent que possible je choisis d'utiliser les matériaux qui ont été testés sur le public pendant des milliers d'années, et pas seulement quelques-unes.

Je réutilise mes sacs en plastique, mais un trou et ils deviennent inutiles pour la nourriture. Ensuite, je les recycle. Mais le recyclage du plastique donne un produit de qualité inférieure et, éventuellement, le plastique n'est plus utile. Le fait est que, finalement, les sacs de plastique finiront à la poubelle, et y resteront pendant un million d'années. De plus en plus, je vois toute utilisation de plastique inconsidéré et non durable.

Alors, j'ai acheté une cocotte minute. Maintenant, je peux stocker en toute sécurité une large gamme de produits, des soupes et même de la viande dans des contenants de verre réutilisables. La mise en conserve n'est peut-être pas pour tout le monde, mais il y a d'autres options en matière non-plastique. Une visite en ligne du site Fake Plastic Fish (fakeplasticfish.com) a été une véritable révélation sur les options de stockage non-plastique des aliments. Les contenants en acier et en verre coûtent beaucoup plus cher que le plastique, mais ils restent utilisables pour le stockage des aliments plus longtemps et l'acier peuvent être sans cesse recyclés en produits de haute qualité.

J'ai examiné le livre Ecological Intelligence pour ce numéro de l'Interactions. Un bon nombre de ces questions y sont abordées dans cet ouvrage. Dans Ecological Intelligence l'auteur propose d'avoir des produits marqués en fonction de leurs impacts sur l'environnement, et l'impact sociale. Cela donnerait aux consommateurs un pouvoir d'achat permettant d'exercer une pression sur les entreprises afin d'améliorer leurs pratiques et leurs résultats.

Dans un effort louable de réduire les déchets en plastique, la société qui fait les Sun Chips a introduit récemment un sac totalement biodégradable. Toutefois, tous les sacs ont été récemment abandonnés sauf d'une saveur. Les consommateurs ont refusé d'acheter les nouveaux sacs parce qu'ils se plissaient avec trop de bruit. Dans ce cas, la commodité et le confort ont emporté sur les préoccupations environnementales de la majorité des consommateurs. Les individus et notre société, devons avoir à faire des choix de commodité, de santé et durabilité. Les conséquences de ces décisions peuvent rester pendant des siècles.

Ci-dessous vous trouverez des articles en ligne discutant de la Plaque d'ordures de l'océan Pacifique, ses frères et soeurs de l'Atlantique et le BPA.

Hub Pages: hubpages.com/hub/Pacific-Ocean-Garbage-Patch
www.bbc.ca/technology/story/2009/08/28/great-pacific-garbage-patch.html - CBC
Globe and Mail: www.theglobeandmail.com/news/technology/science/a-sea-of-synthetic-trash/article38268/page1/
Toronto Star: www.thestar.com/news/world/article/796008--first-the-great-pacific-garbage-patch-now-the-great-atlantic-patch
Scientific American: www.scientificamerican.com/article.cfm?id=plastic-not-fantastic-with-bisphenol-a



Interruptions

Astrid Steele

Removing a Student from Their Cell Phone or iPod Is Not for the Faint of Heart

Every year when I took my high school students on our 5-day wilderness trip that marked the end of our environmental education program, I would insist that they leave all of their digital gadgets, like cell phones and iPods, behind. And every year this was met with incredulity from most of the students. How could they possibly be expected to function without those vital connections to their larger worlds? In truth, I knew that some of them were compulsive, chronic, and addicted users of CIT (communication and information technology). After patient explanation and discussion they all invariably agreed to that 5 day period of abstinence, but with mixed emotions. Some were eager to try the 'experiment' while others expressed nervous apprehension.

My intention in separating students from their CITs was not a punishment, nor did I take particular pleasure in dealing with their dramatic and traumatic responses. Rather, it was an attempt to remove as many filters and distractions as possible from the experiences they would have on our canoeing and hiking trip. Educators, scholars and authors have commented on the growing separation and disconnection of humans from natural environments (Bowers, 1993; Hodson, 2003; Orr, 1992; Shiva, 1997) resulting in an ethic of natural resource exploitation rather than an ethic of care. Richard Louv, in his book *Last Child in the Woods* (2005), tackles this notion of separatedness between humans and nature; he argues that all our human faculties evolved in nature and are nurtured by nature. To not participate in nature diminishes who we are and who we could become.

While the emergence of CIT has revolutionized how we access information and communicate with each other, it has done little, in my view, to bridge the gap between humans and nature. Now you might argue (my students have) that the Internet brings digital information in the form of images and video to all who show interest. For example, if you wanted a better understanding of ecological principles, or data on local invasive species, or even instruction on how to recognize and prepare wild foods, then a simple Google search will bring nature right to you. But in my view, the hardware and software are filters, they are walls, screens, and mazes that propagate the notion of under-

standing nature, while, in truth, keeping the user isolated and separated from the actual atoms and molecules, the waft of wind, scent in the air, brush of a leaf on the forehead, the buzzing of an insect nearby, that are nature.

You might propose (my students have) that an IT device like a GPS gives many more people confidence to access and travel safely in the outdoors; that a GPS actually decreases the gap between humans and nature. I gave that argument some thought. Have you used a GPS? It's a handheld device that uses satellite signals and digital technology to pinpoint precise locations on the planet. Really an awesome invention! But it is also a seductive technology that renders one's location in nature into a set of algorithms; one becomes a little dot on a little screen, described by a series of numbers. Watch someone use a GPS and you will inevitably see them stare compulsively at that little screen as they travel through nature, barely mindful of what surrounds them, hardly noticing the rise and fall of the terrain, the movements in the underbrush, the rush of wings in the branches, the direction of wind, and sunlight. It's as if the human travels in a bubble through nature; a bubble rendered possible by the GPS. Worse still, when the technology malfunctions and the bubble bursts, that human is no closer to feeling kinship with nature, rather they are disoriented, or worse, lost, and in dire circumstances.

So how did my students make do without their CITs? Well, they had to talk to each other face to face; they had to fall asleep to the sound of the wind in the pines, or nearby voices around the campfire. They had to think about their friends and family without being able to immediately access them and in some cases they had to overcome bouts of homesickness by talking to their companions or to me. I watched as some of them created spaces in which they could simply sit and read, or watch the sunlight play on the waves. One student commented that she had never realized how much pressure she felt as a cell phone user, to keep tex-

(See Interruptions, page 20)

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

Interruptions

Astrid Steele

Enlever un téléphone cellulaire ou un iPod d'un élève n'est pour les faibles de cœur



Chaque année, lorsque j'amène mes élèves du secondaire à notre voyage de 5 jours en milieu sauvage marquant ainsi la fin de notre programme d'éducation environnementale, j'insiste qu'ils laissent tous leurs gadgets numériques, comme les téléphones cellulaires et les iPod à la maison. Et chaque année, c'est accueilli avec incrédulité de la plupart des étudiants. Comment pourraient-ils être appelés à fonctionner sans ces liens essentiels à leur monde extérieur? En vérité, je savais que certains d'entre eux étaient de compulsifs, chroniques et utilisateurs toxicomanes de CIT (Communication et Technologies de l'Information). Après une explication et discussion patiente, ils ont toujours tous souscrit à cette période de 5 jours d'abstinence, mais avec des sentiments partagés. Certains étaient impatients d'essayer l'expérience, alors que d'autres ont exprimé une inquiétude nerveuse.

Mon intention, en séparant les étudiants de leur CIT n'était pas en guise de punition, et je n'ai pas pris de plaisir particulier à faire face à leurs réponses dramatiques et traumatisantes. Au contraire, il s'agissait d'une tentative d'éliminer autant de filtres et de distractions que possible de l'expérience qu'ils ont auraient en canoë et en randonnée. Éducateurs, chercheurs et auteurs se sont prononcés de plus en plus sur la séparation et la déconnexion de l'homme des milieux naturels (Bowers, 1993; Hodson, 2003; Orr, 1992; Shiva, 1997) résultant en une éthique de l'exploitation des ressources naturelles plutôt que d'une éthique de soins. Richard Louv, dans son livre *Last Child in the Woods* (2005), aborde cette notion de séparation entre l'homme et la nature; Il soutient que toutes les facultés de l'homme ont évolué dans la nature et sont nourries par la nature. Ne pas participer à la nature diminue qui nous sommes et qui nous pourrions devenir.

Bien que l'émergence de CIT a révolutionné notre façon d'accéder à l'information et de communiquer les uns avec les autres, il a fait peu, à mon avis, pour combler le fossé entre l'homme et la nature. Maintenant, direz-vous (mes élèves l'ont dit) que l'Internet apporte des informations numériques sous forme d'images et de vidéo à tous ceux qui manifestent leur intérêt. Par exemple, si vous voulez une meilleure compréhension des principes écologiques, ou des données sur les espèces

envahissantes locales, ou même des instructions sur la façon de reconnaître et de préparer les aliments sauvages, une simple recherche sur Google ramènera la nature devant vous. Mais à mon avis, le matériel et les logiciels sont des filtres; ils sont des murs, des écrans, et des labyrinthes qui propagent la notion de compréhension de la nature, tandis qu'en vérité, en gardant l'utilisateur isolé et séparé des atomes et des molécules réelles, la bouffée de vent, le parfum dans l'air, la brosse d'une feuille sur le front, le bourdonnement d'un insecte à proximité, qui font parti la nature.

Vous pouvez proposer (mes élèves l'ont fait) qu'un dispositif informatique comme un GPS donne beaucoup plus de confiance aux gens d'accéder en toute sécurité et d'aller dans la nature, qu'un GPS diminue effectivement l'écart entre l'homme et la nature. J'ai pensé à cet argument. Avez-vous déjà utilisé un GPS? C'est un appareil portable qui utilise les signaux satellites et la technologie numérique pour localiser des lieux précis de la planète. Vraiment une invention géniale! Mais c'est aussi une technologie séduisante qui indique où l'on se trouve dans la nature dans un ensemble d'algorithmes; on devient un petit point sur un petit écran, décrite par une série de chiffres. Regardez quelqu'un d'utiliser un GPS et vous les verrez inévitablement regarder compulsivement ce petit écran quand ils voyagent dans la nature, à peine conscient de ce qui les entoure, à peine remarqué la montée et la chute du terrain, les mouvements dans les broussailles, la ruée des ailes dans les branches, la direction du vent et du soleil. C'est comme si l'homme se déplace dans une bulle à travers la nature; une bulle rendue possible par le GPS. Pire encore, lorsque la technologie fonctionne mal et la bulle éclate, que l'homme n'est pas près sensibilisé au sentiment avec la nature, ils sont plutôt désorientés, ou pire, perdus dans des circonstances terribles.

Alors, comment mes élèves se débrouillent sans leur portable? Eh bien, ils avaient à se parler face à

(Voir Interruptions, page 21)

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



Environmental Education FYI

Andrew Boughen

Grants and Contests

Green Apple

The Metro grocery store chain is again soliciting applications from elementary and secondary students in Ontario to its Green Apple School Program. This program offers grants of \$1,000 dollars to schools to implement green projects in their communities. A number of Ontario schools have received grants for such projects as tree planting with community partners, school yard greening, in school recycling programs, and even purchasing snowshoes to use in the school yard. The deadline for submission is March 31, 2011, but they are evaluated on a first, come first served basis. The information and applications about the program can be found at www.greenapplegrants.ca.



Greenbelt Video Competition

The Friends of the Greenbelt Foundation is hosting an International Greenbelts Conference in Toronto March 22-24, 2011. As part of the lead up to this conference, they are sponsoring a video competition open to Ontario residents 16 to 29 years old. The videos must be 30 seconds to 1 minute long, and be focused on helping to stir social change to protect and grow Ontario's Greenbelt. The prizes are quite substantial, and include the screening of the video at the conference. The deadline for submission is January 2, 2011. All details and eligibility criteria may be found at www.globalgreenbeltsconference.ca/video-competition.



For the Gamer

The website learningforsustainability.net aims to educate about sustainability, and is a one person effort that grew from a PhD project. Links to an interesting collection of computer games can be found at the site including a page devoted to computer games that teach about sustainability. At http://learningforsustainability.net/internet/online_games.php, one can be linked to a game that can be played with multiple players involved in the simulation of ecological disasters, a game that teaches about creating a sustainable community, and a quiz game that teaches about how consumer choice can affect the environment, amongst other games.



Resources

An interesting part of one family's expression of how green living and technology can coexist is a page that educators may find useful. If you are

looking for environmental lessons and resources to engage learners K-12 across the curriculum, check out <http://greenlifsmartlife.wordpress.com/2010/02/17/teaching-green-100-tips-tools-resources-for-every-kind-of-classroom/>. The list of 100 ideas, does not contain direct links to resources, but names of organizations and short descriptions are given to assist with tracking the sources.

If you and your students are fans of Annie Leonard's *Story of Stuff* productions, you will be happy to hear that a new project has grown from Leonard's work. A series of eight short animated web videos called Loop Scoops have been produced, and are aimed at getting the "think and make more responsible decisions about the stuff in your life" message to kids, families and educators. The videos can be found at pbskids.org/loopscoops, and while aimed at 6-9 year olds, they provide a message that goes well beyond that age group. There are plans to have accompanying teacher resources on www.teachersdomain.org soon. This latter site is an excellent teacher resource of background information and links associated with PBS broadcasting, including programs such as Nova, and Nature, which often feature environmental issues.

A recent article in the *Globe and Mail's* science section highlights how interacting with nature can assist children in overall learning, including improvement in standardized test scores, classroom behaviour and even motivation to learn. There is, of course, a widely based movement to recognize that children must move away from the extended screen time, and spend more time in the out-of-doors. This article explains how humans have two kinds of attention, and that when children spend time in nature, they use one kind of attention, and allow the other attention (called direct attention), that is used to do math etc, a time to rest and recover. The article suggests that design of school yard and parkland must be designed and available to provide users a chance to restore their direct attention circuitry. What a great opportunity for environmental educators to confirm that children's environmental education experiences in the outdoors offer great value. This article can be viewed at <http://m.theglobeandmail.com/news/technology/science/the-call-of-the-wild-helps-children-learn/article1797630/?service=mobile>.

There are a variety of organizations currently

working hard to reconnect children with nature. One is the Take Me Outside organization, which is promoting a run across Canada beginning in January 2011 by their executive director Colin Harris. He will be visiting schools along the way and providing programming that will be meant to inspire students, parents, teachers and policy makers to get outside. You can find further information about this project at www.takemeoutside.ca. Another like minded Canadian organization, the Child and Nature Alliance works in collaboration with Richard Louv's Children and Nature Network (<http://www.childrenandnature.org> \t " _blank), to reconnect children and youth to nature. Specifically the Alliance provides a Canadian context to this worldwide movement. Further information about this Alliance is available at www.childnature.ca.

Biodiveristy and Wildlife

A new website of the Federal - Provincial - Territorial Working Group on biodiversity can be found at biodivcanada.ca. It is an interesting site from which has links to current Canadian research and reports on biodiversity. One such link is to the 2010 report *Canadian Biodiversity: Ecosystem status and Trends 2010*. This report is published by the Canadian Councils of Resource Ministers, and reports on 22 key findings that emerged from technical reports that assessed biodiversity across Canada. The Canadian Councils of Resource Ministers intend to use this report as a partial assessment of Canada's progress towards the United Nations biodiversity targets of reducing the rate of biodiversity loss around the world.

As the UN Year of Biodiversity ends, an excellent resource is available from the Canadian publication *Alternatives Journal*. Its latest issue is devoted to biodiversity, and has some excellent articles that reflect Canadian perspectives on this topic. Visit their website at www.alternativesjournal.ca.

The Canadian Wildlife Federation has two lovely biodiversity posters for the classroom, and they are available to order online at www.cwf-fcf.org. You can also order one of the organization's Year of Forests poster. The UN has declared 2011, as International Year of Forests. More information I'm sure will soon be available regarding this UN promotion.

Citizen Science

Often in the autumn I remind those interested in citizen science to join *Project Feederwatch*. This program which is a project of Bird Studies Canada and the Cornell Lab of Ornithology, aims to collect data regarding the kinds and numbers of birds that visit feeders. A teacher can easily engage their students in the watch, counts and submission of data requiring a small investment of time every two weeks throughout the winter. In addition to a wide

variety of educational resources available online at the Bird Studies website, there is a specific *Feederwatch* teacher guide resource available online. This program offers a good opportunity for students to reflect on how collecting local data can contribute to a continent-wide research project. Visit their site: www.birdscanada.org.

An interesting issue to watch concerning bird health was featured on the CBC science and technology website at www.cbc.ca/technology/story/2010/11/09/science-bird-beaks-deformed.html. It describes a study that updates research recording high numbers of birds having deformed beaks which makes it difficult for them to feed and preen themselves. The study focused on chickadees and crows in Alaska, Washington and British Columbia, and reports finding of deformities more than 10 times what is expected in the wild population. The researchers also saw an increased number of other species affected by this condition. The beak deformities can be caused by natural occurring viral, bacterial or parasitic infections, but has also been associated with environmental contaminants such as organochlorines.

COP16

The Canadian Wildlife Federation (CWF) is sending a delegation to the United Nations Climate Change Conference (COP16) in Cancun, Mexico. The conference takes place November 29-December 10, CWF has launched a website that can be used as an educational tool about the conference. CWF is encouraging educators to interact with the delegation online, by submitting questionnaires that indicate their topics of interest. Based on what is requested by teachers, the delegation will provide material, and information to stimulate class discussions and lessons. The website to follow is www.canchange.ca.

Boyne River Property

The Boyne River Natural Science School property near Shelburne Ontario, has been purchased by the Bruce Trail Conservancy organization. This was the property where so many children learned about nature through their visit to the facilities owned by the Toronto District School Board. The 100 acres of property was secured through donations, and came into ownership of the Conservancy in August of this year. Further information about the property, and the Conservancy may be found at www.bruce-trail.org in the land conservation section.



Andrew Boughen is an environmental educator living in Newmarket, Ontario



Media for Environmental Education

Ellen Murray

Oil Spill Lessons

One of the challenges of environmental education is finding a good way to discuss massive environmental disasters. From the Gulf oil spill, to the Tar Sands, to the stream of toxic sludge in Hungary, helping students cope with disasters in the news takes courage. You have to understand what happened, what choices individuals and society have made that lead to the situation and what can be done to clean up the mess. Remember that like any sensitive issue, no matter how depressing the news it's crucial to focus on the future and leave students with a sense of hope and give them ways to take action.

1. Understanding the Spill

For secondary students a good way to open a discussion about the Deepwater Horizon oil spill in the Gulf of Mexico is to show the oil spill superimposed on your town using www.ifitweremyhome.com/disasters/bp. Imagining how much of your neighbourhood might have been covered with oil helps students understand the immensity of the problem.

A multimedia introduction is the 6 minute YouTube video by the Southern Alliance for a Clean Environment (SACE) at www.youtube.com/watch?v=K038zQdHobE&feature=player_embedded. It is decidedly American and explicitly covers many lifestyle and technology alternatives to fossil fuel use.

The Canadian Lesplan website at www.lesplan.com has some publications available for free download. The Level 2 (grade 8-10) June 2010 issue of *What in the World?* has an excellent article titled *The Worst Spill Ever*. The lessons contain a reading summarizing the topic, a worksheet, an editorial cartoon analysis, an image analysis using a graphic organizer and answer keys for all this. The variety of content lends itself to an excellent differentiated lesson.

2. Cleaning Up Spills

For some fun discovery activities for kids in grades 3- 5 check out www.ehow.com/list_6134476_kid_s-science-projects-oil-spills.html. The activities allow students to understand how water birds get covered with oil, and a wash up exercise shows how birds feathers can successfully have oil cleaned off them. One of the links on this page leads to a discussion of the social reasons for oil spills, ways

to control spills, laws to prevent spills, and how we can help prevent spills by using less oil and gas. It is appropriate for grade 4-8 students.

For grades 7-12 Boreal sells a bioremediation kit (Order # WW01753M10) for \$60 that has oil eating bacteria. The kit is set up to allow students to test different variables that might influence the rate of bioremediation. I have just bought this kit and in the lab write up will ask my students to compare what they learned to the situation in the Gulf.

3. Canadian Oil “Spills”: The Tar Sands

Many Canadians have taken a “head in the sand” approach to the Alberta Tar Sands. Environmental educators need to find a way to integrate an analysis of social, environmental and economic advantages and disadvantages of extracting Tar Sands oil and gas into any discussion of oil spills. The damage done to Alberta ecosystems over the long term is likely comparable to the Gulf oil spill.

Another free Alberta resource for secondary students is at the LesPlan website (www.lesplan.com) in the Oct 2010 article which follows director James Cameron of Avatar fame, as he takes on the Tar Sands. The non-profit organization Tar Sands Watch at www.tarsandswatch.org has a strong social justice viewpoint on Tar Sands development. They critique Tar Sands oil extraction not only based on climate change and energy issues but also First Nations, water, military links, and social damage.

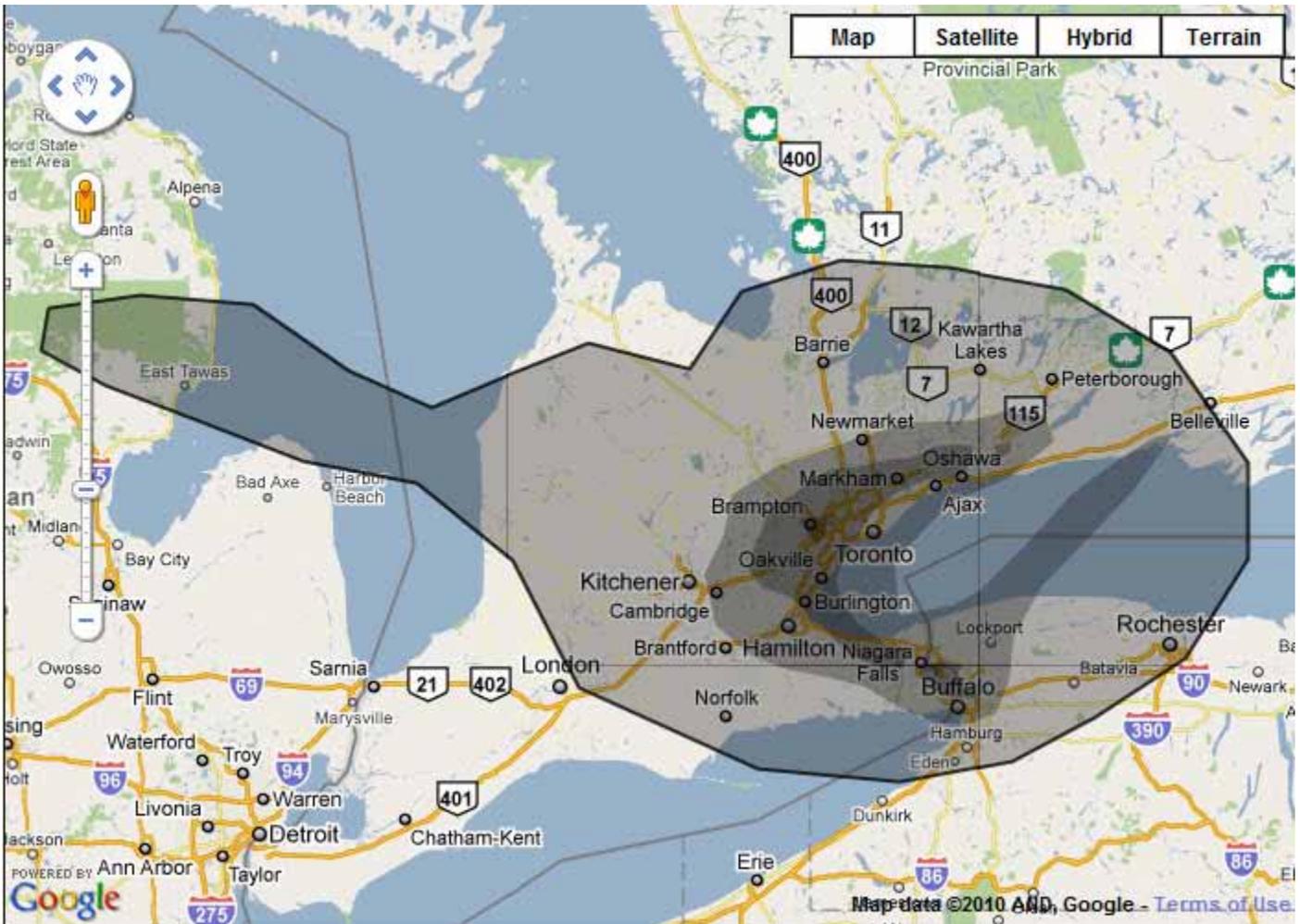
On the other hand, the Alberta government website at www.energy.alberta.ca/OilSands/791.asp clearly outlines the economic benefits of the Tar Sands. There is also information about Alberta's efforts to regulate greenhouse gas (GHG) emissions described at environment.alberta.ca/0915.html

4. Taking Action

To prevent depression and a cynical “I don't care” attitude we need to give students opportunities to take action. Teachers and students who want to take action against the Tar Sands pollution can check out the campaign actions at www.tarsandswatch.org/all-campaigns. Another site with a reliable, broad scientifically supported set of actions against climate change is the David Suzuki Foundation at www.davidsuzuki.org/issues/climate-change/take-action.

As educators we want to inspire young people to work for a better future in spite of the fact that we have some current environmental disasters. I encourage everyone to tackle the oil spill issue head on instead of “sticking your head in the sand.”

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





Nature Story

Allan Foster

Barney and Betty Beaver – a Love Story

My thanks to the teachers who made up this story at a workshop I facilitated at the November STAO (Science Teachers Association of Ontario) conference.

It's amazing what fabulous literature a group of science teachers can create in 4 minutes when they're given 4 words and a factsheet about beavers. In the case of the story below, they selected four words from a brainstormed list:

- character - "beaver"
- object - "goldenrod gall"
- setting - "narrow bridge"
- event - "corn roast"

Once upon a time there were two beavers living separately in the same stream. There was an ancient bridge crossing the stream. He lived upstream from the bridge and she lived downstream.

One day she was busy grooming herself with her teeth and her fingers when she spotted something floating past her in the stream.

"What's that?" she thought. When she swam over to investigate she made a horrible discover. It was a lump of poop.

"That's disgusting," she said out loud to herself. "Who does that?" She was incensed.

But a friendly worm living in a goldenrod gall beside the stream

answered saying, "Don't you know that all beavers poop underwater? It makes sense because then your enemies can't find you."

"No beaver I know poops underwater!" she answered. "That's just gross. And what's more, it's disgusting!"

Before the tiny worm could reply, Betty dove underwater and swam upstream to find the culprit and give him a piece of her mind.

It wasn't long before she spotted Barney at the bank of the stream. But she never got the chance to ask him if he had done it. All of a sudden, the poop didn't seem to matter that much. Barney took her breath away.

He was a very handsome beaver. And when she spied him, he was just swaggering out of the stream like some water god. Betty stared as the water ran in rivulets from the fur covering his rugged body. He looked all the more splendid because he was backlit by the sunset. When he turned casually to face her, he grinned and his front teeth gleamed a fabulous shade of orange. She could see that he was extremely fit because his teeth were as sharp as a chisel. She forgot right away why she had come looking for him.

Meanwhile, Barney was completing an evaluation of his own. He was attracted to Betty's graceful movement in the water. The delicate paddling of her front paws and the mighty kick of her rear webbed feet. Her tail undulated up and down in powerful strokes that easily overcame the current. By her size and features, even while she was in the water, he could see that she was in her third year and ready to take a mate.

They were both smitten. It was love at first sight.

Barney took the initiative. He invited Betty to a corn roast held by the local animals that evening. He promised her that there would be plenty to eat – lots of tender poplar bark and roasted water lily root. So she eagerly accepted and they had a wonderful time with all the other animals in the forest.

Soon Betty and Barney were wed. They left their family homes and migrated about 10 km upstream to build a new beaver pond and begin a family of their own. They were happily married and like all beavers, were mated for life.

Betty never mentioned the reason she had come looking for him in the first place. It just didn't seem important anymore.



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.

Should We Go to Conferences?

Under Western Skies: Climate, Culture, and Change in Western North America

Bill Thompson

Why Go to Conferences?

Let's say the title drew me, "Under Western Skies", a climate conference put on by the humanities department of Mount Royal University in Calgary. It had a list of keynotes to die for and was integrated, like our EcoLinks conference needs to be, but at a provincial and university academic level.

As OSEE conference coordinator, I had arranged to attend some conferences to be able to improve our own subject association conference. Some on my list of desirables were in Ontario, some outside. When I suggested this as a benefit to OSEE, as an environmental education leader, and our conference, the debate started. "We are provincial, so should not go out of the province." "People attending were not teachers so there was no membership benefit to OSEE." "Tar Sands issues in a western climate conference were not relevant to Ontario, nor even the rest of Canada!"

I was quite surprised at some of them (your choice of which ones), but thought the support of those in favour of the exercise, and you as OSEE members, deserved a report from the conference and my desire to go there.

I will first put forward my bias of really liking Alberta. I like the mountains, the clear air and wide skies, the variety of landforms and landscapes, the simplicity of some of the issues, and the directness with which they are sometimes dealt. Several years ago I had attended various summer institutes there with Inside Education, who provided these 8 - 12 day events free of charge to Alberta teachers. I was the added voice, to bring a wider picture to the mix; ideas and happenings in education from Ontario that would add a wider range to the discussion. I appreciated that and have carried that thought with me since. It was foremost on my mind when I saw the climate conference notice.

Two years ago I was asked to speak at WaterEd-West, held at the Banff Conference Centre. They invited delegates from all the western provinces and a few of us from the east in the same wider sharing.

As conference chair for OSEE I look at how conferences are run – or not, their set up, the timetable of sessions and free time, what speakers are offered and offering, and how many will speak in a single session.

I do go to the provincial subject association conferences as an exhibitor for our EcoLinks conference, and take any ideas I can from them. This does

feel a little bit like "inbreeding", and makes me want to view a broader horizon for professional input.

Perhaps this was instigated when OSEE followed a COEO path (Council of Outdoor Educators of Ontario, and no pun intended with their *Pathways* journal) several years ago that led them to summer camps as conference bases, with the main focus on all things outdoors, and having a dance in the evening as COEO does. If ideas work, stolen or not, fine, but OSEE folk did not seem to take kindly to unheated camper cabins, many teachers need to be coaxed gently outdoors, and most of our members don't seem to want to dance. In any event, membership and conference numbers plummeted. So I search for solutions and alternatives, many implemented at UOIT two years ago, and the search goes on – wherever it leads.

I am always on the lookout for speakers who will be relevant for our conference. I did not hope for much carry over from Alberta, but there were a few. What I did want to see was how they handled the integration of environmental subject disciplines at their conference, especially since it was organized by the humanities department and not science or geography as tradition has it here.

Their list of keynotes really impressed me. Maude Barlow was on top of their alphabetical list and I was keen to see what changes, or not, she would make from the talk she gave to us last year. She did not disappoint and added a preview and discussion of her movie about water issues. It was different, and still embarrassing to hear her introduce the topic of the Ontario Teachers' Pension Plan's investment in the privatization of water in Chile to a group outside Ontario.

Where else could I have heard Dr. Vandana Shiva speak on ecology, health and diversity on the same program and even on the same closing panel? Her global outlook and breadth of knowledge, along with her passionate commitment were amazing.

Leo Jacobs spoke from his perspective as an aboriginal leader and educator from Fort McMurray



(See *Western Skies*, page 23)

The Transformation of Energy

Sherri Owen

Meeting expectations in:

- Grade 5 - Conservation of Energy
- Grade 6 – Electricity and Electrical Devices
- Grade 11 Physics – Energy and Society

What is Energy

Energy is what makes the universe go round. It makes you and I function. It makes cars and planets move. It is stored in food and in batteries. It surrounds us, it's in us, but, what exactly is it? Defining energy is very difficult. The most basic scientific description is that "Energy is the ability to do work". That brings us to the question, what is work in a scientific sense? "Work is a force applied over a distance." In short, energy is the ability to get things done. Website references give more detailed definitions and information.

First Law of Thermodynamics

Another aspect of energy is that it cannot be created, nor destroyed. This is referred to as the First Law of Thermodynamics. However, energy can be changed from one form to another. These transformations make energy useful to us. Sunlight and wind and fossil fuels are huge sources of raw energy, but they are not nearly as useful as electricity. Until we can change energy from one form to another, much of its potential remains untapped.

Students are quite familiar with the many uses of electricity in our lives. They understand that when TVs or fans or heaters are plugged in, they make light, and motion, and heat. Likewise, we can assume that students know gas goes into a car and then it moves. But, few students have a real understanding of where that electricity or gas came from. In fact, both forms of energy can be considered transformed sunlight, (with the exception of electricity from nuclear sources). In the Energy Scavenger Hunt, students will trace the path that energy can take as it begins as sunlight and changes multiple times before being used.

Second Law of Thermodynamics

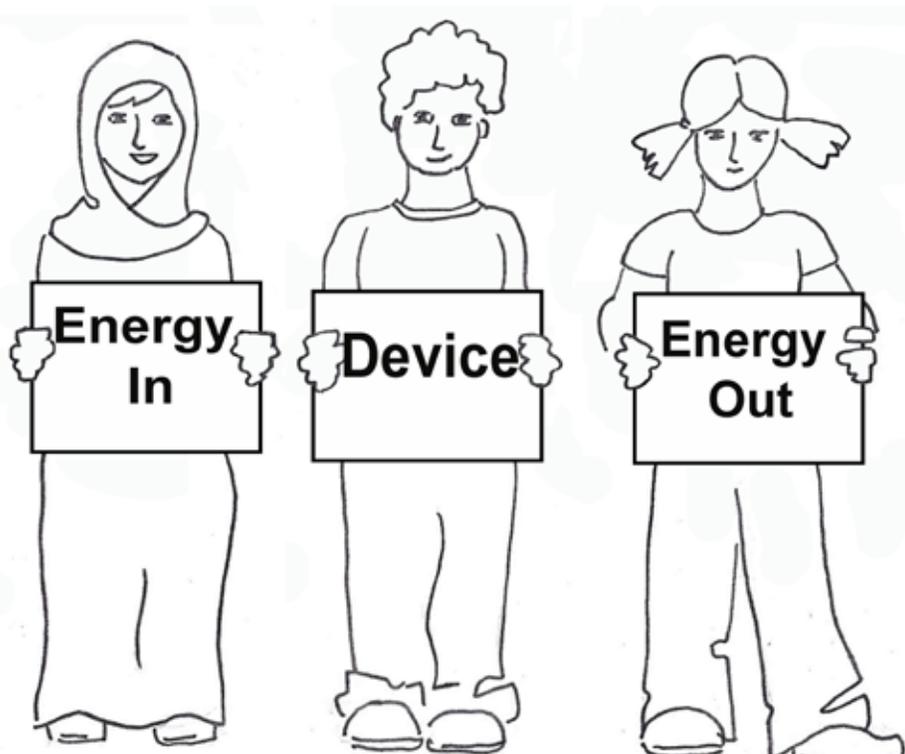
A question most students do not ask is, 'where does the energy go'? Remember that energy can be neither created nor destroyed. It must go somewhere when we are finished using it. For the most part on Earth, energy is lost as heat and escapes our ecosphere into the void of space. In fact, heat is a by-product of every energy transformation; this is the Second Law of Thermodynamics, sometimes referred to as entropy. How then do we continue with our energy constantly leaking away into space? Nearly all our natural systems are dependent on a constant input of energy from the sun (of course there are a few exceptional creatures drawing energy from hot sea vents, but other than that...).

It is hoped that by tracing the path of energy from its source – the sun – to its eventual loss – as heat – students will begin to think about from where the energy they use comes, and what forms of energy we will be looking to in our future.

In the Energy Sentences activity, students will review some energy transformations and think about what unwanted by-products may result from some devices. By choosing devices that use less energy and have fewer unwanted by-products, students can begin to make informed choices about energy conservation.

References

- WikiEducator - http://wikieducator.org/Lesson_1:_Forms_of_Energy_and_Energy_Transformation. Brief overview of what energy is and several of its forms
- New Mexico Solar Energy Association - Energy Concepts Primer, www.nmsea.org/Curriculum/Primer/what_is_energy.htm. Detailed and thorough discussion of energy. Secondary level concepts.



Activities

Energy Chain Scavenger Hunt

Summary

Students follow the transformations of energy. Like a choose-your-own-adventure, each form of energy can change into a variety of other forms, which lead to more and different transformations. This activity focuses on energy that begins as sunlight and eventually becomes heat, and is lost.

Materials

- Recording sheets (appendix B)
- Game direction cards (appendix A)
- Pencils
- Clipboards optional

Procedure

1. Hand out clip-boards and pencils and worksheets. If this is the first group, hand out clothes pins and cards and have the students pin the cards up in the low branches of trees within set boundaries.
2. Carefully and fully explain the procedure using an example sheet. This game can be confusing.
3. All the energy starts from the sun, then it can be changed into one of the listed forms (chemical, wind, electricity, falling water).
 - a. Players find a card with one of those four names on it. They write down that form of energy just found.
 - b. Students then write down what other kinds of energy could be changed into (the “to find” energies).
4. Players are now looking for one of the “to find” energies only and when they find one they write it down.
5. This should make a chain of one energy form turning into another, and another. Some chains are short and some are long. Try to get the students to find as many different chains as possible.
6. In the classroom, draw out the chains on the board using arrows to link the energies.
 - a. Fill in any missing links.
 - b. Eventually all energy is changed into heat and that heat escapes from the earth into space.
 - c. We do not run out of energy because the sun continues to shine and inputs more energy to the earth.
7. Explain that each arrow represents a device (or process) that changes one form of energy into another.
 - a. E.g. a light bulb changes electricity into light.
 - b. Fill in all the devices represented by arrows.
8. Take time to explain what a turbine is and how it works. A shaking flashlight is a good way to demonstrate how an electric current is generated by a magnet moving across a wire.

Reinforce that energy is neither created nor destroyed it can only change forms.

Questions

1. List all the sources of electricity that you can remember.
2. Are there any devices that can be powered without using fossil fuels? What path would the energy take?
3. What sources of energy can be used to heat a house?
4. If energy is lost as heat in each transformation, how can we reduce the number of transformations when heating a house?

Extensions

List the benefits and disadvantages of using coal, wind, sun, and falling water to generate electricity.

Energy Flow Sentences

Summary

Students are assigned to represent different kinds of energy. When a device is shown, students must arrange themselves to form a sentence, ensuring that the correct energy goes into and out of the device.

Note: This activity builds from the Energy Flow Scavenger Hunt very well.

Materials

- Energy Cards
- Device Cards Unwanted
- By-product Cards

Procedure

Hand out large energy cards (green) and by-product cards (tan), one to each student. Double up with cards if necessary. Hold up a device card (red) and invite the student to come forward with the energy card that names the energy going into the device (e.g. electricity goes into a light bulb). Invite the student (or students) to come forward representing the energy that comes out (e.g. light and unwanted heat come out of a light bulb). Once the students understand this, start timing how long it takes them to arrange themselves into a proper sentence.

Questions

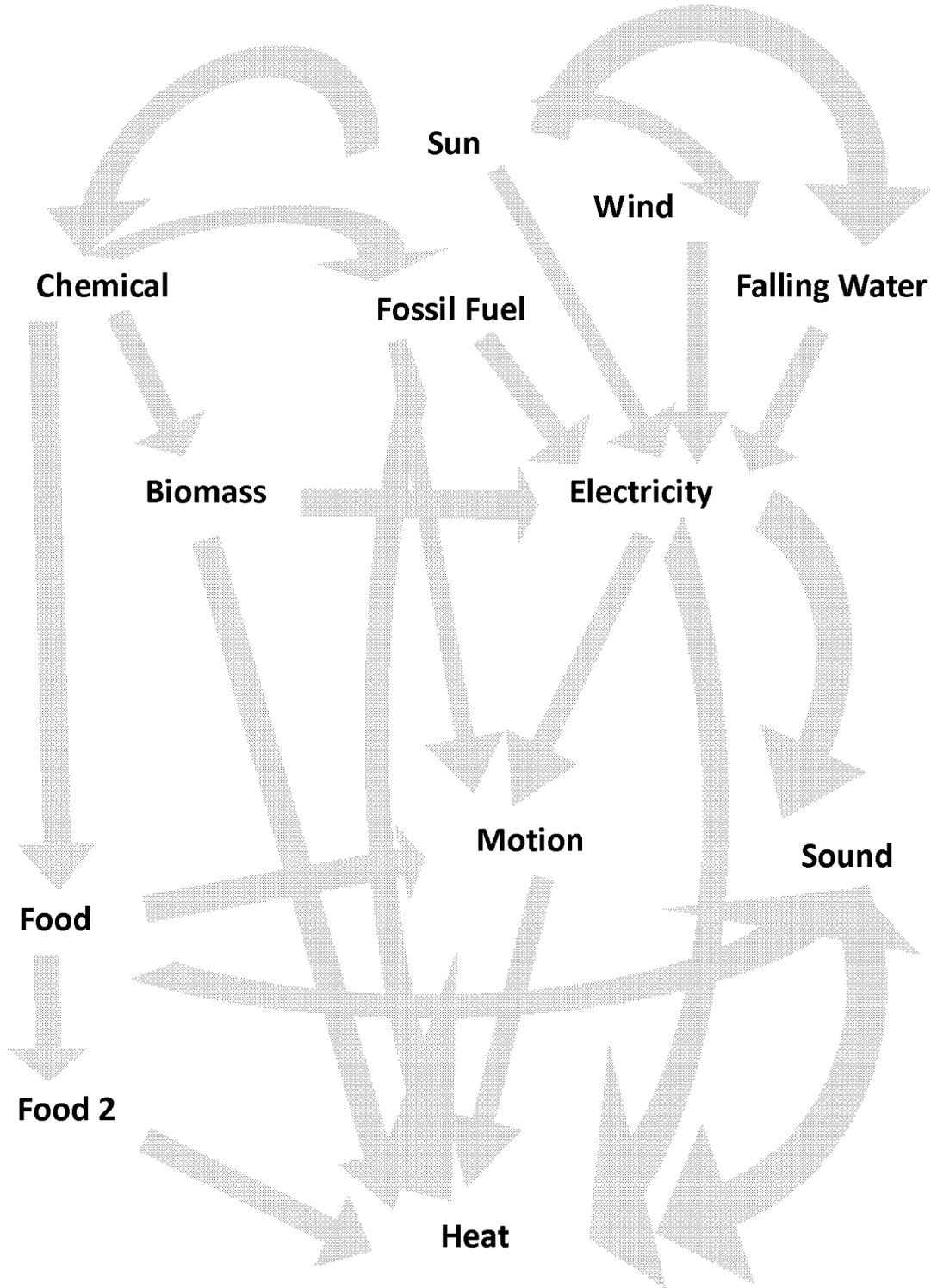
1. What unwanted by-products were included in the activity? Why are they unwanted? Can you think of any other by-products of devices that waste energy or are unwanted?
2. Which energy sources were renewable?
3. Which energy sources had no unwanted by-products?
4. What form of energy could be most easily transformed into other forms?

<p>Wind</p> <p>Find: Electricity or Motion</p>	<p>Food</p> <p>Find: Motion or Heat or Food 2nd</p>
<p>Electricity</p> <p>Find: Light or Motion or Heat or Sound</p>	<p>Fossil Fuel</p> <p>Find: <i>Electricity or Motion or Heat</i></p>
<p>Chemical</p> <p>Find: Food or Bio-Mass or Fossil Fuel</p>	<p>Sound</p> <p>Find: Heat</p>
<p>Bio-Mass (burning or rot)</p> <p>Find: <i>Heat</i></p>	<p>Food 2nd</p> <p>Find: <i>Motion or Heat or Sound</i></p>
<p>Motion</p> <p>Find: <i>Heat</i></p>	<p>Heat</p> <p>End, all energy lost</p>
<p>Falling Water</p> <p>Find: <i>Motion or Electricity</i></p>	<p>Light</p> <p>Find: <i>Heat</i></p>

1st Sun	
To find: Electricity or Wind or Chemical or Falling Water	
2nd	To find:
_____	_____
3rd	To find:
_____	_____
4th	To find:
_____	_____
5th	To find:
_____	_____
6th	To find:
_____	_____

1st Sun	
To find: Electricity or Wind or Chemical or Falling Water	
2nd	To find:
_____	_____
3rd	To find:
_____	_____
4th	To find:
_____	_____
5th	To find:
_____	_____
6th	To find:
_____	_____

Appendix C – Energy Map



Appendix D- Energy Sentence Cards Summary

Electricity	Radio	Sound
Electricity	Speaker	Sound
Sound	Microphone	Electricity
Electricity	Television	Sound & Light
Electricity	Oven	Heat
Electricity	Stove	Heat
Electricity	Fan	Motion
Electricity	Heater	Heat
Chemical	Battery	Electricity
Chemical	Furnace	Heat
Chemical	Human Body	Motion
Chemical	Human Body	Heat
Chemical	Human Body	Electricity
Chemical	Car	Motion
Sound	Telephone	Electricity
Electricity	Telephone	Sound
Electricity	Battery Charger	Chemical
Light	Voltaic Cell	Electricity
Motion	Turbine	Electricity
Electricity	Lamp	Light
Light	Green Plant	Chemical

Energy Cards Required:

- Electricity
- Sound
- Chemical
- Sound
- Light
- Motion
- Heat

Device Cards Required:

- Radio
- Speaker
- Microphone
- Television
- Oven
- Stove
- Fan
- Heater
- Battery
- Furnace
- Human Body
- Car
- Telephone
- Battery Charger
- Voltaic Cell
- Turbine
- Lamp
- Green Plant

Unwanted Byproducts Cards

- Unwanted Heat
- Unwanted Noise
- Green House Gases
- Smog

Editorial Position Open!

Production Editor, *Interactions Journal*

- **Share your ideas and classroom techniques with fellow teachers**
- **Help teachers prepare their articles for publication**
- **Use page layout software to format each issue**
- **Oversee printing of issues for web distribution and printing for mailing**

Job Benefits:

- **Help fellow teachers and learn about the curriculum and classroom practices**
- **Network with other teachers and organizations**
- **Honourarium provided**

Submit your name with background
to

Mike Morris, Editorial Chair

mmorris@rogers.com

(Interruptions)

ting her friends. Heads nodded in agreement. By the end of the trip many of the students acknowledged that CIT habits were just that; they were not dire necessities, but personal choices, that in many cases took their attention away from more interesting tasks at hand.

To be sure, when they were reunited with their CIT's there was a flurry of excited phone calls to parents and friends informing all that we had safely and successfully completed our trip and were on the way home. My call was among them.

Removing a student from their cell phone or ipod is not for the faint of heart. No it is not. But, as an environmental educator, I believe that there is tremendous value in creating a space in which our students experience nature directly, through no other lenses than their own senses...at least for a time.

References

- Bowers, C.A. (1993). *Education, cultural myths and the ecological crisis: Toward deep changes*. New York, NY: State University of New York Press.
- Hodson, D. (2003). Time for action: Science education for an alternative future. *International Journal of Science Education*, 25, 645 - 670.
- Louv, R. (2005). *Last child in the woods: Saving our children from Nature-Deficit Disorder*. Algonquin Books.
- Orr, D.W. (1992). *Ecological literacy: Education and the transition to a postmodern world*. Albany, NY: State University of New York Press.
- Shiva, V. (1997). *Biopiracy: The plunder of nature and knowledge*. Toronto, ON: Between the Lines.

(Interruptions)

face, ils avaient à s'endormir au son du vent dans les pins, à proximité ou de voix autour du feu. Ils ont dû penser à leurs amis et famille sans pouvoir y avoir accès immédiatement et, dans certains cas, ils ont dû surmonter des épisodes de la nostalgie en parlant à leurs compagnons ou à moi. J'ai vu que certains d'entre eux ont créé des espaces dans lesquels ils pourraient simplement s'asseoir et lire ou regarder la lumière du soleil sur les vagues. Une étudiante a observé qu'elle n'avait jamais réalisé à quel point elle se sentait sous pression d'envoyer des messages à ses amis. Beaucoup acquiesça de la tête. À la fin du voyage de nombreux étudiants ont remarqué que les habitudes de CIT étaient exactement cela, elles ne sont pas des nécessités terribles, mais des choix personnels, et que dans de nombreux cas il ya des choix plus intéressants à portée de main.

Biensûr, quand ils ont été réunis avec leurs appareils, ils ont été très excités de faire des appels téléphoniques aux parents et amis pour les informer tous que étions retournés en toute sécurité et avec succès de notre voyage et étaient sur le chemin du retour. Mon appel a été parmi eux.

Séparer un élève de leur téléphone cellulaire ou d'un iPod n'est pas pour les faibles de cœur. Non, ce n'est pas le cas. Mais, comme un éducateur environnemental, je crois qu'il y a une valeur inestimable dans la création d'un espace dans lequel les étudiants prennent conscience de notre nature directement, avec leurs propres sens ... du moins pour un temps.

References

- Bowers, C.A. (1993). Education, cultural myths and the ecological crisis: Toward deep changes. New York, NY: State University of New York Press.
- Hodson, D. (2003). Time for action: Science education for an alternative future. *International Journal of Science Education*, 25, 645 - 670.
- Louv, R. (2005). Last child in the woods: Saving our children from Nature-Deficit Disorder. Algonquin Books.
- Orr, D.W. (1992). Ecological literacy: Education and the transition to a postmodern world. Albany, NY: State University of New York Press.
- Shiva, V. (1997). Biopiracy: The plunder of nature and knowledge. Toronto, ON: Between the Lines.

Wanted!

Lesson Plans

Classroom Activities

Feature Articles

Artwork/Photographs

(Students or Teachers)

Share your ideas and classroom techniques with fellow teachers

Help provided to get your articles print ready

Issue dates:

October

December

February

April

June

Material needs to be submitted 2 months before the publishing date for processing.

Submit your work or questions to

Mike Morris, Editorial Chair

mmorris@rogers.com

Bill Thompson, Editor

Bill.Thompson@OSEE.ca

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 contribution 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:

(Western Skies, continued from page 13)

with experience ranging from trap lines to international companies. In Alberta I got the native background on issues around the Tar Sands and was shown their involvement as necessary. He highlighted for me the need for sessions around native studies at our upcoming conference.

Andrew Nikiforuk, an award winning journalist on energy, economics and the West, has written for many magazines and newspapers. He wrote policy papers on the Great Lakes and water for the University of Toronto's Munk Centre and his latest book, *The Tar Sands: Dirty Oil and the Future of the Continent*, won the 2009 Rachel Carson Environment Book Award. He has an amazing grasp of aspects of climate change.

Bron Taylor from the University of Florida is Professor of Religion and Environmental Ethics. I was able to connect with and expand on the talk Rick Kool gave at our last conference on this topic. For, if we but realize it, this is the foundation on which our environmental ethic, and thus environmental education itself, is laid.

The last keynote listed, was Richard White, historian, the Margaret Byrne Professor of American History at Stanford University. He has written several books and was finalist for the Pulitzer Prize. He impressed me most with offering a new way of thinking about climate change that was really old, from his field of history. He reminded us that there have been many large disasters and large movements of peoples in our world's history, like the Black Death and the Irish Potato Famine, and other mass movements around the world. He did not feel the push for a global solution would work. It showed no sign of working so far, so why keep trying with the same technique that was not working? It would be local initiatives and adjustments lasting for 100 to 250 years that would have to happen for us to get through this next "event". We needed to get on with what we could do locally to adjust, for we would be "adjusted" anyway. History would take care of it.

I did learn that such a large group, even this talented, was wasted together in a panel, which they had opened to the public on Saturday afternoon. There was little time for anything new or of substance to say past their keynotes and it ended up a series of sound bites as they offered their best "short answer" to any question. That was just my take as a conference organizer, the audience there appreciated them greatly.

One session that I related to from the beginning for its use in the classroom, was the "Tar Sands/Oil Sands" presentation. Along with climate, this topic was a major discussion point and one I wanted to see first hand in its home province. It turns out that whichever term you use shows you as either for or against the project. It was originally called

tar sands, but then the government and petroleum companies put through an image polishing program and changed the name to oil sands. It now is a clear indicator of which side of the fence you are on around this issue. So when you read Ellen Murray's activity in this issue, you can analyze that along with her other comments. This fits in with the curriculum activities of analyzing bias in any reference material so students can make judgements on aspects of issues and develop personal skills of critical thinking and decision making.

One thing other professional conferences do (outside of teaching, subject association conferences) is have 3 presentations per session, so each speaker has only 20 minutes. It is quite interesting to see who can present, in depth, a topic in this time frame. I concluded long ago that it was not a time tabling technique useful to teacher workshops but had some use where information about programs was the main message and they could be grouped.

It was a lot of conference (4 days) for \$165. It gives me much to think about as background while I prepare our EcoLinks conference.

To broaden your horizons, I recommend the Latonnell Conservation Symposium at the Notawasaga Inn, in mid November. It is an excellent conference put on by Conservation Ontario and the University of Guelph, along with sponsorship from the Ministry of the Environment and the Ministry of Natural Resources. It's corporate sponsorship allows it to host some impressive keynotes. OSEE sponsored two of our board members, Holly Groome, and Anita Payne to attend and hear Richard Louv, author of *Last Child in the Woods*. Somehow, I think they will say this was worth the money when they share their experience in reports to us.

For those of you further east, there is the conference on the Great Lakes/St Lawrence River Ecosystem, now in its 18th version on May 4-5th, 2011, in Cornwall. It is run by St. Lawrence River Institute of Environmental Sciences, in partnership with the Great Lakes Research Consortium and the Great River Center at Clarkson University (so an "international" conference) The consortium includes Conservation Ontario and the Ministry of the Environment again, along with Water researchers from Queen's and Trent Universities. Get past all those long titles and go. It is great conference.

Remember to do what you advise your students about learning – be brave, jump in, ask lots of questions. You will be further ahead than not going. It will open up all sorts of thought connections and speaker contacts for you to share with your students and add to possibilities as you prepare your lessons.

I hope you will also come to broaden your horizons at *EcoLinks 2011* with us.

Bill Thompson is OSEE Conference Coordinator

Sustainability and the Second Half of Oil

Elise Houghton

Psychology, Money, Economy, Oil, Cars and Green Design

The idea of “peak oil”, of the global oil supply, an ancient and finite resource, reaching its half-way point any time soon, is an uncomfortable one that, like climate change, is frequently denied, ridiculed or ignored. So it’s interesting to see that Honda has taken it up on its Facebook page this month.

www.facebook.com/Honda#!/Honda?v=app_10531514314

One of a special documentary series is called *Dream the Impossible*.

The peak oil topic is entitled *Racing With Time*. It features videos produced by Honda, a place for public comment on their website, and links on their Facebook page (under the “Dream” tab) to blog entries invited from five selected outside “thought leaders.”

I was struck by the fact the first one was an essay written by clinical psychologist Kathy McMahon. She hosts a website for people trying to deal with emotional responses to a dawning recognition that the world post-peak will be significantly different from our profligate consumer society. She calls it Peak Oil Blues, and her essay is at www.peakoilblues.org/blog/?p=2391. She states, “There is only one reason to consider the terrifying implications of an oil depleted future: It gives you more options.”

The second guest blogger is Chris Martenson (scientist turned financial observer), the creator of the wonderfully clear and succinct “Crash Course” (available free on line) on how our contemporary financial system works. His essay *Peak Oil = Peak Economy* is at

www.chrismartenson.com/blog/peak-oil-peak-economy/45229

He’s a very good educator.

Oil, the stuff we consume at a global rate of 86 or so million barrels a day, and that makes our lifestyles and immense comfort possible, isn’t something that gets mentioned very often in educational circles. Serious debate on the multi-faceted costs and benefits of (and the pressing need for alternatives to) the fossil fuel we have come to depend on almost as essentially as air and water isn’t seen as an essential (or even welcome) topic for lessons. So the choice of one of the key contributors to the website called the *Oil Drum* is (in my view) a wonderfully educational one for this discussion.

Gail Tverberg

www.theoil Drum.com/user/Gail%20the%20Actuary has written a piece entitled: *Racing against Finite Petroleum Supply – Challenges and Opportunities*. Her link is:

www.theoil Drum.com/node/6972

If we’re going to educate for a sustainable society any time soon, we’re going to have to deal with some of the nitty-gritty of what it will mean to find and use alternatives to oil. This piece provides a succinct look at some of the challenges we need to know about, and ends with some great pictures of futuristic cars (which may or may not cheer you up)!

If they do, you may like the fourth entry, from Mike Kanellos of Greentech Media, on the potential of electric cars to help solve the energy dilemma. The Solution for Electric Cars? Try One.

www.greentechmedia.com/articles/read/the-solution-for-electric-cars-try-one/

The last thought leader Honda chose is Preston Koerner, an attorney who hosts a popular green design website called *Jetson Green* (devoted to green innovation primarily in the residential context). In his essay, *A Bright Future*, he makes the bold statement: “I believe there are six ways the building, design, and construction industry can eliminate the use of oil entirely.” To find out how, visit: www.jetsongreen.com/2010/10/racing-against-time-bright-future.html

We can’t deal with climate change until we make some serious moves away from our dependence on oil. This is going to take a lot of discussion, big dreams, creativity, policy changes, cooperation, collaboration, design, investment, substitution, and education.

And courage.

Kathy McMahon reminds us that “everyone is helpless if they are ignorant. Trust me, you don’t want to be left in the dark about Peak Oil, because it is going to dramatically change the way you live over the next 10-20 years. Maybe even five years. Maybe less than two www.guardian.co.uk/business/2010/apr/11/peak-oil-production-supply.

Sounds like a big education project coming down the pipe.

HONDA
DREAM THE IMPOSSIBLE
DOCUMENTARY SERIES

Elise Houghton is Chair of Environmental Education Ontario (EEON)



Book Review

Sherri Owen

Ecological Intelligence

I read Daniel Goleman's book *Emotional Intelligence* and found it insightful and helpful, I warmly recommend it. I was inspired to pick up *Ecological Intelligence* recently .

The title is a bit misleading. I was hoping for a broad overview of how ecology and human intelligence relate and overlap. The subtitle is much more descriptive of the book's content: "how knowing the hidden impacts of what we buy can change everything". This book describes how 'radical transparency' in the manufacture and sales of commercial products can change how our economy works and thwart the tide of environmental disaster that appears to be coming.

Radical Transparency means that consumers would be given full information on the impacts of the products they may (or may not) choose to buy. To include full information a detailed life cycle assessment of the product would be done. Life cycle assessment is apparently a new but growing specialty. Companies track the impacts of a product from extraction of raw resources, through manufacturing, sales, use and on to what happens after it is no longer useful. Goleman describes three realms that the assessment should include.

- *the geosphere (including soil, air, water and, of course, climate)*
- *the biosphere (our bodies, those of other species and plant life)*
- *the sociosphere (human concerns such as conditions for workers)*

(Bullets and italics are in the original text – Author)

The list is short, but widely inclusive. It could easily be used to give structure to in-class assessments or discussion.

Ideally, these assessments would be mandatory on the label, much like nutrition information on packaged food. Nutrition examples are cited in the book. When simple and clear health ratings are put on foods, people will choose healthier food more often.

In my opinion, an ecological rating system as described by Goleman would be a great step forward. Personally, I already make many of my consumer choices based on my perception of environmental, health and social impacts of the product. However, the complexity of impacts, green washing attempts, and limits on my budget make

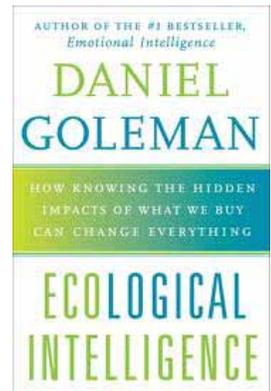
these decisions complicated and difficult. I always feel I am making a compromise whatever I choose. Only things I grow or make myself seem truly guilt free.

Of course, the value of such a rating system is completely dependent on the integrity of the evaluating organization and the careful choice of what factors to assess. Trusting companies to evaluate themselves seems foolhardy. Trusting government is also risky; how often has government bowed to corporations for fear of losing jobs or economic growth? That leaves third-party NGO's for evaluation. Of course, third-party groups could also be swayed by corporate influence; complete transparency would be key.

Goleman highlights several companies that have begun offering assessments of consumer products. GoodGuide.com was just being launched when the book was being written. Now, the website is professional and attractive. It provides a simple score for each product evaluated. More details about ingredients or social impacts are available at a click. Cosmeticsdatabase.com by Skin Deep has been in place for several years. This data base focuses on health impacts from ingredients in personal care products. This site is also very clear and simple (although in this case a low score is better than a high one). The existence of these services, for free, online, gives consumers tremendous power to choose according to their values and thus, put pressure on companies to accommodate those choices even further.

Ecological Intelligence proposes a simple, straightforward step to help us be more conscientious in our everyday consumption. Passages from the book would make excellent classroom reading. The focus is narrow and, as a result, the subject seems a bit laboured. It is impossible to buy ourselves out of the present ecological predicament. An economy that is dependent on continual growth for stability is impossible to maintain in a closed system such as the Earth. Consuming less is an essential part of correcting our current sociological path. However, we need to consume to survive, food, air, and water, at the very least. Radical transparency may be the first essential step towards making our consumption truly sustainable.

Sherri Owen is OSEE President



A Partial History of Ontario-Based Outdoor Education

James Borland

Introduction

In recent years, several scholars have chosen to characterize the current state of Ontario-based outdoor education as a profession existing after the Mike Harris provincial government. Outdoor education is defined as an interdisciplinary teaching methodology that engages students in learning opportunities that can only be accomplished through direct experiences in the natural world (Andrews, 2003; Sharp 1947). Outdoor education is considered interdisciplinary because it integrates outdoor experiences with other disciplines such as environmental education, and recreational education (Borland, 2009). Harris and the Progressive Conservative Party governed the Ontario Provincial Legislature from the late 1990s into early 2000s. Creating a shift in the province's educational ideology, this government strove to make Ontario's education system more fiscally and academically accountable to the Province.

Fiscal and Academic Accountability

In the early 90s, many parents were worried, and some upset, "by teaching strategies that appeared to turn classrooms into noisy playrooms, in which youngsters seemed to learn or not learn as they saw fit, in which children seemed abysmally ignorant of the common rules of spelling or grammar" (Gidney, 1999, p. 177). With a changing economy, the province in the midst of a recession, and a growing provincial deficit, the cost of operating schools began to increase while provincial funding and school board budgets remained unchanged. The public began to question the fiscal relevancy that child-centred pedagogies, emphasizing the moral development of students over the development of subject knowledge, provided for the Ontario education system.

A growing social movement of back-to-the-basics fundamentalists (including the Ontario Conservative Party) advocated for a return to the former pedagogies of direct instruction, rote learning, and accountability. Fundamentalists were successful in swaying public support to their position by affiliating the Ontario Conservative Party, through the media, to the labels of financial and academic accountability. They socially aligned the arguments that the Ontario education system: (a) had low achievement standards, (b) ineffective pedagogy, and made (c) irrelevant use of educational funding during a time of economic change. With the back-to-the-basics movement, this position was then

acted upon by the Mike Harris provincial government upon his election in 1995 (Borland, 2009; Gidney, 1999).

Cuts, Transfers, and Change

As this educational reform began, several programs such as music, libraries, and outdoor education had their funding cut. In the latter, qualified teachers were transferred back to the schools; and replaced by outdoor technicians on short-term and occasional contracts, and high school co-operative education students. These measures were an attempt to reorient the system to a back-to-the-basics approach (Borland, 2009). Various impacts on outdoor education programs created by this decision of the Harris government included: (a) the deprioritization of environmental education from the provincial curriculum (Sharpe & Breunig, 2009), (b) the elimination of environmental science as an optional high school credit (Puk & Belm, 2003), and (c) the forced closure of several board-operated outdoor education centres (Borland, 2009; Breunig & O'Connell; Henderson & Potter, 2001). These significant historical decisions are now viewed by many outdoor education scholars and practitioners as seminal events that have changed the way Ontario-based outdoor education is practiced and discursively framed as an educational service. I am an Ontarian who lived through these events as a secondary school student, then university undergraduate, and finally novice outdoor education practitioner. Although I acknowledge that the actions of the former Harris provincial government served as a major catalyst to the diminishment of outdoor education programming in Ontario, I disagree that it is solely a result of their actions, and instead argue that the way outdoor education in Ontario had been practiced since the late 1960s to the early 1990s had been a cultural experiment that eventually proved to be economically and thus, environmentally, unsustainable. I take the position that by geographically distancing the practice of outdoor education from the world of conventional school teachers, the independent cultural development of outdoor education (though well-intentioned) helped define outdoor education as a practice less relevant to the daily lives of public school teachers and their students. This made it easy for schools, school boards, and finally the Harris government to dismiss outdoor education services as costly and non-essential (Borland, 2009).

The Story So Far . . .

On June 8, 1995, Mike Harris and the Progressive Conservative Party garnered 45 percent of the popular vote, winning 82 of 130 seats in the Ontario Provincial Legislature (Gidney, 1999). Managing a majority government from 1995 to 2003, the Progressive Conservatives took swift action to radically reshape Ontario's education system to be more fiscally accountable to the public, and standardized with a back to the basics scripted program (Borland, 2009). Gidney (1999) states Mike Harris's party framed such action as ensuring equality of program delivery for students across Ontario. However, Sharpe and Breunig (2009) argue this radical shift impacted the delivery of environmental education, symbolized through the closure of board-operated outdoor education centres; the deprioritization of environmental content across the curriculum; and the removal of the environmental science teachable in Ontario. As a result of these actions, Breunig and Sharpe (2009) claim that the Harris back to the basics reform reduced opportunities for Ontario students to participate in environmental education, which led to a decline in training opportunities for teachers, and declines in memberships in the Council of Outdoor Educators of Ontario (COEO) and OSEE, as well as school operated facilities for outdoor experiential learning.

Disconnect, Public Concern, Government Response

On October 10, 2006, the *Toronto Star* published an article by reporters Gillespie and Kalinowski, titled "Why Some Kids Expect Whales in Lake Simcoe: Ontario Falling Behind in 'Eco-studies' Outdoor Programs Seen as Expendable". In their report, it was described how a group of grade 4 students expected to see whales in Lake Simcoe during a trip to Sibbald Point Outdoor Education Centre" (Borland, 2009, p. 114). In response, outdoor centre operator and teacher Jennifer Baron, stated, "It shows how disconnected they are with nature" (Gillespie and Kalinowski, 2006, p. A1). The reporters indicated that for the 7000 York Region students who visit the centre, the five hours spent there is enough to counteract the abandonment of environmental content from the education system (Borland, 2009). In response to increasing public concern regarding the growing environmental disconnect many Ontario children experience today. In 2007, the Ontario government, now governed by Dalton McGuinty's Ontario Liberal Party, created a mandate to integrate environmental education across all revised curriculum documents. That same year the Ontario Ministry of Education published an environmental education policy that identified outdoor education as a contributing discipline, "concerned with providing experiential learning in the environment to foster a connection

to local places, develop a greater understanding of ecosystems, and provide a unique context for learning" (Working Group, 2007, p. 6).

In 2009, the Ontario Ministry of Education published another policy document outlining a provincial framework to guide school boards and schools in developing plans to integrate environmental education across the curriculum in a way that is both locally relevant to students and prepares students with the skills, practices and perspectives they "will need to meet the social and environmental challenges of the future" (Ontario Ministry of Education, 2009, p. 7). For outdoor educators, this most recent policy identifies outdoor education programs as services that can provide local resources for promoting environmental awareness through modeling and teaching, "an integrated approach that promotes collaboration in the development of resources and activities" (Ontario Ministry of Education, 2009, p. 13), as well as, "Provide leadership support to enhance student engagement and community involvement" (Ontario Ministry of Education, 2009, p. 16).

Reflecting On the Past

Coincidentally, that is what outdoor education accomplished 40 years earlier, as the Ontario-based outdoor education movement rose to popularity after the 1967 Geneva Park Conference, in Orillia, Ontario. This event fuelled further cooperative undertakings between organizations such as the Ontario Department of Education, teachers' federations, and conservation authorities (Passmore, 1972). Making the keynote address at this conference, Dr. John Kirk (1968), defined outdoor education as a curricular teaching method that uses the outdoors, "to cultivate a reverence for life through an ecological exploration of the interdependence of all living things, one on the other, and to form a land ethic illustrating man's temporary stewardship of the land" (p. 1). Following this event, in 1972, the newly formed Council of Outdoor Educators of Ontario (COEO), held its first conference titled: Without Boundaries (Raffan, 1996). Building on Kirk's message, Thomas Goodale (1972) forewarned in his keynote address, that if the outdoor education movement did not make itself relevant to the urban environment of its participants, it would become little more than a sop for future critics.

Reflecting after the 25th Annual COEO conference on the words of Goodale, Dr. James Raffan (1996) argued in *Pathways: The Ontario Journal of Outdoor Education*, that the enthusiasm of the 1960s, 70s and 80s was over. By 1990, the financial costs of many school board-operated outdoor education centres became financial liabilities for many boards (Richardson and Eagles, 1990). Faced with shrinking budgets and increasing student populations many large school boards

decided to balance their budgets by making cuts to speciality programs. Large urban school boards such as the Peel District School Board made decisions to close outdoor education centres, return outdoor educators to the classroom, replace educators with outdoor technicians, and reallocate funding for outdoor education to services school trustees deemed more essential (Borland, 2009). In this climate of educational uncertainty, the Harris government became responsible for education (Gidney, 1999). However, before their party came to power, both the NDP and Liberal governments had been making plans during the previous fifteen years to take similar actions to standardize Ontario's curriculum and enhance fiscal accountability. The only difference was that the Conservative government decided to take action.

Prior to the significant Conservative reforms made to the education system, for some time several Ontario school boards had been questioning the relevancy of outdoor education programs (Borland, 2009). Raffan (1996) claims that while the development of several school board operated outdoor education facilities flourished during the 60s and 70s, the fiscal realities of the 90s demonstrated the unsustainable economic nature these facilities present during times of economic recession. He argues that through the creation of an educational culture disconnected from the schools these programs serve, the ways outdoor educators and their programs were defined through: (a) the establishment of specialized facilities; (b) their geographic location, and (c) the ways outdoor educators taught (regulating visiting teachers to the role of behavioural chaperones at their centres), contributed to defining the practice of outdoor education as something different from classroom teaching.

Borland (2009) states, in a struggle to save several outdoor education centres from closure during the 1990s, several centres began offering their most popular outdoor pursuit oriented programs to the general public, charging user fees to help financially sustain their struggling centres. Outdoor pursuits are forms of non-motorized

travel-based activities such as canoeing, hiking and rock-climbing (Priest, 1999). While practitioners argue that these practices enabled outdoor educators to continue offering less popular environmental education programs (Borland, 2009). Andrews (2003) and Borland (2009) assert that this push for self-sufficient outdoor education centres has shifted public perceptions about the potential of outdoor education as an educational service. According to these authors the historical focus of promoting the ecological awareness of living organisms and encouraging participants to become stewards of the land (Kirk, 1968), has now narrowed to focus on the provision of outdoor pursuit-based recreational programming. Andrews (2003) and Borland (2009) claim this has resulted in many outdoor education programs shifting away from an ecologically informed educational philosophy, towards the delivery of recreational commodities.

Conclusion

This situation has created a rift between the Ontario Ministry of Education's recent identification of outdoor education as a critical component of environmental education, and the field's fiscal reality that the public consumption of outdoor recreational programming is the predominant generator of sustainable income for surviving outdoor education centers. While many Ontario-based outdoor education programs now directly compete with the outdoor recreation industry, Brookes (1993) argues that many outdoor education programs have shifted to a shallow educational philosophy that offers recreational programs that are merely labelled as outdoor education, rather than serving a relevant educational initiative.

This has resulted in further segregation of Ontario's outdoor education field into two communities: one community concerned with educating people about the environment, and one community concerned with the promotion of recreational programming as a form of outdoor education. While each of these groups considers their programs part of the Ontario-based outdoor education field, I argue the boundaries between these communities are permeable. Due to the interdis-



The Magic Suitcase Inc.

A picture book distributor with a difference!
Featuring a selection of picture books and interactive kits.

- Quality science-related picture books and resources
- Professional evaluation of featured titles
- Direct links to curriculum units in science and math
- A collection that will travel to your school
- Competitive discounts offered!

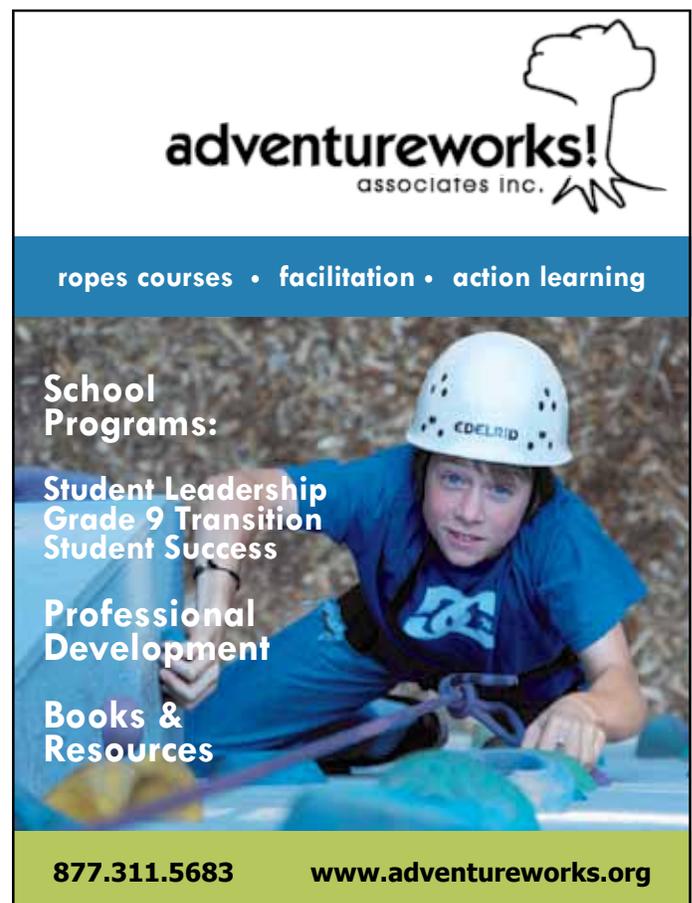
www.magicsuitcase.ca info@magicsuitcase.ca
 tel: 519-578-8849 fax: 519-578-0504

ciplinary nature of outdoor education, it is more important to acknowledge that there is a diversity of direct experiences that students can be engaged in to learn about their place in the larger natural world rather than struggling to define one group as outdoor education, while marginalizing the other. By identifying how these two communities have evolved, outdoor education practitioners can gain a deeper understanding of the political realities that have historically shaped their practice. In turn, this information can provide a historical framework practitioners can use to influence future development of outdoor educational practices, programs, and government policy.

References

- Andrews, W. (2003). *Accountability in outdoor education*. Toronto: Andrews Education Services.
- Borland, J. (2009). *A Demonstration of Craft: An Outdoor Educator's Autoethnography*. Unpublished master's thesis, Brock University, Ontario, Canada. Retrieved HYPERLINK "<http://dr.library.brocku.ca/bitstream/handle/10464/2844/ademonstrationof-00borluoft.pdf?sequence=1>" <http://dr.library.brocku.ca/bitstream/handle/10464/2844/ademonstrationof-00borluoft.pdf?sequence=1>
- Breunig, M. & O'Connell, T. (2008). An overview of outdoor experiential education in Canadian K-12 schools: What has been and what is. *Taproot: a publication of the Coalition for Education in the Outdoors*, 18(1), 10-16.
- Brookes, A. (1993). Deep and shallow outdoor education. Can we tell the difference? *The Outdoor Educator*, June, 8-17.
- Gidney, R. D. (1999). *From hope to Harris: The reshaping of Ontario's schools*. Toronto, ON: University of Toronto Press.
- Gillespie, K., & Kalinowski, T. (2006, October 10). Why some kids expect whales in Lake Simcoe; Ontario falling behind in 'eco-studies' Outdoor programs seen as expendable. *Toronto Star*, A1
- Goodale, T. L. (1972). *Outdoor education and the future of man*. Outdoor education – without boundaries: Proceedings. Council of Outdoor Educators of Ontario.
- Henderson, B. & Potter, T. (2001). Outdoor adventure education in Canada; Seeking a country way back in. *Canadian Journal of Environmental Education*, 6, 225-242.
- Kirk, J. J. (1968). Outdoor education – Its origins and purposes. Keynote address delivered at the Conference on Outdoor Education, Orillia, Ontario, Canada.
- Ontario Ministry of Education. (2009). *Acting Today, Shaping Tomorrow: A policy framework for environmental education in Ontario schools*. Toronto, ON: Queen's Printer for Ontario.
- Passmore, J. (1972). *Outdoor Education in Canada – 1972*. Toronto, ON: Canadian Education Association.
- Priest, S. (1999a). The Semantics Of Adventure Programming. In J. C. Miles & S. Priest (Eds.), *Adventure Programming* (pp. 111-114). State College, PA: Venture
- Puk, T., & Belm, D. (2003). The diluted curriculum: the role of government in developing ecological literacy as the first imperative in Ontario secondary schools. *Canadian Journal of Environmental Education*, 8(1), 217-237.
- Raffan, J. (1996). About Boundaries: A personal reflection on 25 years of C.O.E.O. and outdoor education. *Pathways: The Ontario Journal of Outdoor Education*, 8(3), 4-11.
- Richardson, M., & Eagles, p. F. J. (1990). *Outdoor education centres in Ontario boards of education*. (Occasional Paper No. 17). Waterloo, ON; University of Waterloo, Department of Recreation and Leisure Studies.
- Sharp, L. B. (1947). *Basic Considerations In Outdoor And Camping Education*. NASSP Bulletin, 31, 43-47.
- Sharpe, E., & Breunig, M. (2009). Sustaining environmental pedagogy in times of educational conservatism: A case study of integrated curriculum programs. *Environmental Education Researcher*, 15(3), 299-313.
- Working Group on Environmental Education. (2007). *Shaping Our Schools, Shaping Our Future: Environmental Education In Ontario Schools*. Retrieved from www.edu.gov.on.ca/curriculumcouncil/shaping-schools.pdf

James Borland, University of Windsor



adventureworks!
associates inc.

ropes courses • facilitation • action learning

School Programs:

Student Leadership
Grade 9 Transition
Student Success

Professional Development

Books & Resources

877.311.5683 **www.adventureworks.org**



Meanders

Mike Morris

The Story of an Autumn Flower

I've been doing a fair bit of driving recently on bright, sunny days. As I drive rural roads, I often see the vibrant colour of one of my favorite flowers. The bright yellow Goldenrod is a common roadside flower in southern Ontario.

Solidago, commonly called goldenrods, is a genus of about 100 species of flowering plants in the family *Asteraceae*. Most are herbaceous perennial species found in the meadows and pastures, along roads, ditches and waste areas in North America.

Solidago species are easily recognized by their golden inflorescence with hundreds of small capitula. They have slender stems, usually hairless but *S. canadensis* shows hairs on the upper stem. Their alternate leaves are linear to lanceolate (lance/spear shaped). Their margins are usually finely to sharply serrated.

Solidago species are perennials, growing to a height of from 60 cm. to about 1.5 m. They have stems that can be decumbent to ascending or erect, ranging in height from 5 to 100 or more centimeters. Some species have stems that branch near the top. Reproduction is by wind blowing seeds, or by spreading underground rhizomes which can form colonies of vegetative clones of a single plant. They are mostly short-day plants and bloom in late summer and early fall. Some species produce abundant nectar when moisture is plentiful, or when it is warm and sunny.

The many goldenrod species can be difficult to distinguish, due to their similar bright, golden yellow flower heads that bloom in late summer. Goldenrod is often unfairly blamed for causing hay fever in humans. The pollen causing these allergy problems is mainly produced by Ragweed (*Ambrosia* sp.), blooming at the same time as goldenrods, but is wind-pollinated. Goldenrod pollen is too heavy and sticky to be blown far from the

flowers, and is thus mainly carried by insects during pollination.

Goldenrods can be used for decoration and making tea. Goldenrods are, in some places, held as a sign of good luck or good fortune. They are considered weeds by many in North America but

they are prized as garden plants in Europe, where British gardeners adopted goldenrods long before Americans did as garden subjects. Goldenrods only began to gain some acceptance in American gardening during the 1980s.

Honey from goldenrods often is dark and strong due to admixtures of other nectars. However, when there is a strong honey flow, a light, spicy-tasting honey is produced. While the bees are ripening the honey produced from goldenrods, it has a rank odor and taste, but finished honey is much milder.

Goldenrod also contains some natural rubber. Inventor Thomas Edison created a fertilization and cultivation process to maximize the rubber content in each plant. His experiments produced a 3.7 m plant that yielded as much as 12 percent rubber. The rubber produced through Edison's process was resilient and long lasting. The tires on the Model T given to him by his friend Henry Ford were made from goldenrod. Examples of the rubber, elastic and rot free after more than 50 years, can still be found in his laboratory. However, Edison's goldenrod rubber never went beyond the experimental stage.

Goldenrod has long had medicinal uses as well. *Solidago virgaurea* is used in a traditional kidney tonic by practitioners of herbal medicine to counter inflammation and irritation caused by bacterial infections or kidney stones. *Solidago odora* is sold as a medicinal, for these issues: mucus, kidney/bladder cleansing and stones, colds, digestion, and a tea is made from the leaves and flowers for sore throat, snake bite, fever, kidney and bladder problems, cramps, colic, colds, diarrhea, cough and asthma. A poultice is used for boils, burns, headache, toothache, wounds, and sores.

It always amazes me how a widespread, easily-recognized plant, like Goldenrod, can have such an important story and play a vital role in history.



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

OSEE Executive and Board 2010-2011



Executive Members: President:
Sherri Owen
Lakefield



1st Vice-President:
Cathy Grant
Oshawa



2nd Vice-President:
John Howden
Courtice



Treasurer:
Linda Borland
Thorold



Secretary & Membership:
Ellen Murray
Toronto



Editor of *Interactions*:
Bill Thompson
Woodstock



Editorial Chair of *Interactions*:
Mike Morris
London



Web Coordinator:
James Creech
Barrie



Eastern Region:
Diana Brushy
Ottawa



Central Region:
Gwen Layton
Uxbridge



Northern Region:
Holly Groome
Huntsville



Far Northern Region:
Beth Dasno
Sioux Lookout

Regional Directors:



Ray Clement
Toronto



Diane Beckett
Ottawa



Anita Payne
Stratford



James Borland
Windsor



Karen Heisz
Scarborough

Directors-at-Large:



Conference Chair:
Bill Thompson
Woodstock



French Consultant:
Holly Shaw
Paris



Archivist:
Sandra McEwan
Whitby

Ad Hoc Positions:

Return to:
54 Blackfoot Pl.
Woodstock ON N4T 1E6



The Ontario Society for
Environmental Education
www.osee.ca

EcoLinks 2011

Integration in All Subjects and Grades

62nd Annual Conference

Information & Registration - Delegates

Environmental Education Conference for K-12 Teachers and other Educators

- April 28, 29, 30 2011 - Seneca College, King City Campus
- 3 days of workshops/presenters designed to help teach Environmental Education in all subjects and grades

The Ontario Society for Environmental Education (OSEE) is the subject association for Environmental Education.

- **Focus** will be on helping elementary and secondary teachers to integrate Environmental Education in every subject in every grade.
- **Emphasis** on helping classroom teachers with lesson ready material.
- **Keynote Speakers** will inspire and inform.
- **Session Speakers** will help you in your classroom teaching in all subjects and grades with activities and strategies.
- **French "Mini Conference"** session choices
- **Draws** for great prizes, camping equipment, hotel stays, educational supplies.
- **Location** - Garriock Hall, Seneca College, King Campus (near King City, north of Toronto, east of #400)
- **Meals** - Lunch, dinner, and breaks are included. A light breakfast will be at registration.
- Social Wednesday evening (April 27) for travellers.
- **Accommodation** - Residence rooms are available next door for \$69.95, single or double occupancy in two bedroom suites. **Bookings are separate from the conference** on an individual basis at: 905-833-1650, seneca.king@stayrcc.com.

Send to:

Program and teacher registration will be on OSEE's web site as conference plans develop:

www.osee.ca

Contact Conference Chair, Bill Thompson at:
bill.thompson@osee.ca,
519-539-8413, cell - 519-536-6505

OSEE Conference Registration

Fill out and mail with cheque, payable to OSEE, to:
Bill Thompson, OSEE Conference Coordinator
54 Blackfoot Place, Woodstock, ON N4T 1E6

Choice of Days (Circle one price option - Early deadline is April 3)

Full Conference (3 days):	\$275 Early - \$320 Regular
Two Days: Thursday & Friday	\$250 Early - \$280 Regular
Two Days: Friday & Saturday	\$210 Early - \$235 Regular
One Day: Thursday or Friday	\$150 Early - \$170 Regular
One Day: Saturday	\$80 Early - \$90 Regular
Students: Full:	\$125 (\$50/day) (Volunteers possible)

Name: _____

Title: _____

School: _____

Board: _____

Address: _____

Phone: _____

*Email: _____

(*Required for receipt and all correspondence)

Dietary restrictions: _____

Attending Dinner: Thursday: Yes/No Friday: Yes/No

Seneca King
Conference
Site



The mission of OSEE is to support and inspire educators
teaching environmental education in Ontario