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Pathways_

COEO

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Pathways

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"Today, I believe food is one of the most accessible ways in our education system to teach important environmental and outdoor lessons."

- Michael Elrick, page 19

When we think of food, the first thoughts that come to mind are family, friends and farms. Yes, the three *F*s serve a purpose and a place within our society.

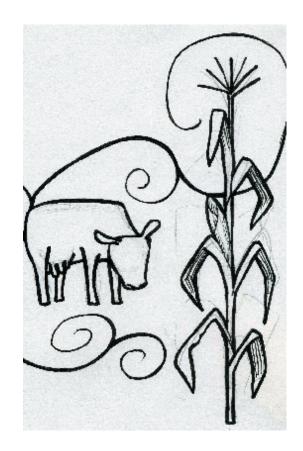
Maybe your mother taught you how to care and nourish your own little piece of earth. Like Bob Davis or Mike Payne, you've felt the overwhelming thrill of witnessing the first green shoot break through the dark soil like the Incredible Hulk. Currently in society, food is a uniting force, whether it be through social functions, cultural traditions or self-indulging comfort. Food ultimately brings people together!

Where food is plentiful, it is not seen as a means of survival, but more commonly as an obsessive pleasure of textures and tastes. Although these experiences may seem like the norm, unfortunately, there is a huge disconnect between how food gets from farms to families. Do children today realize that just like water doesn't come (that is, originate) from the tap, our groceries do not come from the super store? Moreover, can we as a society tell the difference between millet and spelt? In order to make healthy choices, Louise Racine believes that our families, and our youth in particular, need to know the nutritional value of the foods we are consuming.

The saying goes: you are what you eat. So what does that say about our current society? In a fast-food nation, it is getting quite difficult to avoid obesity, diabetes and heart disease, to name a few effects. You need not look any further than Stefan Superina's article on ecological literacy to

realize how our food decisions are affecting our younger generations. Janette Haase is the first to explain in her article that, "a century ago, almost everyone knew how to grow something. Growing food, in addition to harvesting and storing it, was very much part of day-to-day life and therefore part of a person's education" (page 5).

Informing students that our food comes from farms is one thing, but talking about where those farms are located is taking education and empowerment to another level. Why aren't our educational systems talking about the important issues when it comes to food? Why aren't we talking about where our food comes from, what is added to it and how many non-renewable resources it took to get those tangerines to Ontario just in time for the holiday season?



Many individuals have been experimenting and devoting themselves to the 100-mile diet to lessen their impacts on a warming environment. Colin Harris, who started his 100-mile diet in 2008, writes that, "this age of convenience has brought us processed foods that are leading to both health and environmental concerns, arguably reaching epidemic proportions. For many students (and adults), there is a gross lack of understanding of food systems" (page 9).

However, there are food education programs sprouting within Ontario. One example is The Screaming Avocado located in Northwestern Secondary School in Stratford, Ontario. Stephanie Murphy explains in her article that, "When grade 11 and 12 students register for a double-credit course in culinary arts, they're signing up for a semester of really practical life-skills learning" (page 7). Murphy had the opportunity to spend her four-week teaching practicum being mentored by Paul Finkelstein and Dean Elieff, whose hard-working students prepare the nutritional meals.

Michael Elrick describes his experience with his integrated program, Headwaters, sharing how his four-step system ensures students have an experiential understanding of living in a sustainable manner. His program challenges students to think about where food comes from, to eat locally, to grow and care for food as well as to prepare and cook the fruits of their labour at an end-of-the-year dinner.

As we reflect upon our experience editing this *Pathways* issue, we realize that food education can serve as a recipe for our lives as future educators. Taking an ounce of ecological literacy, a pinch of garden education, a sprinkle of integrated programs, a dash of personal reflection and a teaspoon of mustread books, we feel this edition has given us the necessary tools to become advocates for food education. It is our hope that after reading this issue on food education, readers will be motivated to eat locally and support farmers' markets. If we all do our part, maybe the mighty polar bear will have some ice left to stand on.

Breanne Card and Marla Dagnone
Outdoor and Experiential Education (OEE)
Teaching Graduates 2009
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Sketch Pad – The art for this issue of *Pathways* was generously provided by Jennifer Jones, who is better known as Brin to her friends. Drawing is only one of her talents. She also sings in local music groups and is involved in a wide range of activities that include doing graduate research on sharks, animating Earth Education programs and rock climbing. Brin is often seen in class working on an assortment of craft projects and is always interested in some new creative endeavour. This year, while in the Queen's University OEE program, she learned how to silk screen and then taught others. She was fascinated with the way silk screening allows people to adorn used clothing with their favourite environmental slogans and images. The tree she helped design for the back of the COEO T-shirt incorporates some research information.

P

resident's View.

Food – it is something we all experience a few times a day through the act of eating (and excreting), but how often do we really think about it? How often do we let the experience of food connect us to a place? Make us think about our dependency on the land? Help immerse us in the ocean of ecology that surrounds us like the air we breathe? Do we allow the direct experience of pulling a plant out of the ground or aiming a weapon at a mammal to help us develop values and ethics concerning our indebtedness to the very things we must kill to live?

We all have our own food stories that weave us in and out of an awareness of how dependent we are on the land. Perhaps it is trying to find special ingredients for old recipes or local natural alternatives to commercial food cravings that helps us to be conscious of the land. For many, it is memories of family events that give relevance to experiences that focus on the garden or a game trail.

I readily recall my first encounter with a vegetarian, which opened me to how food was an ethical issue – and a potentially explosive issue for group dynamics on a trip. Since my first exposure to new ideas concerning food, I have repeatedly asked myself: What should I be eating and what is the best way for me to acquire my food? Such questions have led me to read many dietary books.

Macrobiotic eating introduced me to the concept that the human species is the only one that continues to drink milk beyond the weaning stage; vegetarian cookbooks introduced me to the atrocities of feedlots and the carrying capacity of tilled soil. Awareness

that Inuit people lived well in such a cold bioregion without a vegetarian diet sent me searching further into ideas concerning appropriate eating. I discovered a host of theories and concluded that perhaps there is no single diet that would be appropriate for everyone. Such ideas have increased my tolerance for special diets, since I believe each person must become attuned to and care for their body in the same way that each must also attend to his or her local ecosystem. Outdoor educators will find it worth considering how such concepts can be introduced into our education system.

On my own and in discussions with many others, I have been exposed to the theory of "eating right for your blood type" and to the idea that eating free-range, grass-fed beef is healthier than factory-farm, grain-fed beef. I have eaten animal organs and wild food. Each food conversation and shared meal aids me in becoming attuned to both my inside and outside landscape and how to make them one.

Food education, with its blend of indoor and outdoor, is a delightfully delicious way of learning. I find myself engrossed in harvesting 20 pounds of Jerusalem artichokes from my front yard, picking fresh herbs from my kitchen window and preparing a pickerel fish just caught on a canoe trip. All these food-related activities keep me turning my connections with the world inside-out and backside-in. If outdoor education is the oldest form of education in the world, surely eating is the most popular mandatory subject. Enjoy munching on this food-related issue of *Pathways*.

Zabe MacEachren



Food Education as Experiential Education

by Janette Haase

Someone once said that you could solve 95 percent of the world's problems if you addressed the issues surrounding food. As I thought about this statement, I began to see all of the aspects of our life that food touches. I thought about greenhouse gas emissions, environmental degradation and pollution, waste issues, obesity, stress, degenerative diseases, poverty and loss of access to land and water in developing countries, genetically modified organisms, corporate control - the list just kept on getting longer. Food really does influence so much and the ways in which we set up our systems of food production govern much of the way that our society, and the societies that we trade with, function. So, it would follow that if we changed our relationship with food, we could begin to reshape our society and address the problems that we face.

I firmly believe it is crucial that we all begin to make informed choices about the foods we eat, how they are grown, where they are grown and how they are packaged. It has been our choices and our lack of understanding of their implications that has created today's food systems and the products that we see in our stores. As outdoor educators, it is interesting to question why consumers are so unaware of the impact of their food choices.

A century ago, almost everyone knew how to grow something. Growing food, in addition to and harvesting and storing it, was very much part of day-to-day life and therefore part of a person's education. The academic year was arranged around the growing season, to allow children to help with the work on the farm. Food was relatively simple, unprocessed and unpackaged. Today, food production has become big business, and fewer and fewer people are actually involved in the whole process. This has led to several generations of people who have very little understanding of

their relationship to food or to the land that grows it. This has led to a host of very poor environmental decisions that are beginning to have real consequences.

Understanding nature is an experiential kind of learning. The interconnectedness of all that is our environment cannot be learned from a book. One can read about the need to act mindfully, but it is often only when one has accidentally spilled that night's dinner into the campfire that a person begins to really understand what it means to be careful and thoughtful in their actions.

Growing food is also a very important form of experiential learning. Gardening, and the thinking that happens when one is engaged in it, is an invaluable experience. It is by putting one's hands into the soil and by experiencing the whole season that one really begins to understand the processes that are at work. It is through the satisfaction of growing and eating something that one comes to value the earth. And it is through being faced with choices, that one begins to understand their implications.

As an organic market gardener, one of my first real lessons in thinking something through came when I was faced with an outbreak of cucumber beetles. These tiny beetles are very fast and hard to catch, which can lead to easy destruction of young cucumber plants. I remember going to the local farm co-op store and looking at the remedies - this was before they had organic insecticides. I read the labels, looked at the price (very high), bought a container of the no-name brand and brought it home. I then went out into the garden and, as I worked, I thought about the chemical, about the whole physical action of putting it on my cucumber plants, and then finally about harvesting those cucumbers and feeding them to my family. I realized that the

chemical insecticide was just not an option. I think we lost most of that cucumber crop – but there were lots of other things to eat. The next year we paid far more attention to the growing conditions for cucumbers. Nature makes us wait, and I firmly believe that it is this process of waiting that causes us to think and to look for environmentally responsible alternatives. The quick fix does not allow for this process to ever occur.

Growing one's own food also brings up many questions concerning value. Science, technology and industry have replaced so much of what was once an inherent part of human existence with artificial alternatives. Why would anyone grow a head of lettuce when it can be bought for 60 cents at the grocery store? Having grown my own food for 25 years now, I would ask why anyone would want to forego the experience of harvesting and eating something they have grown themselves for something that has no connection to their own life. Taste and quality are definitely superior, but more than that, it is the satisfaction and the richness that gardening brings to my life that cannot be replaced.

In harvesting my own food year after year, I feel the sun, the wind, the soil. I also feel deeply grateful for all that the earth has provided. Somewhere along the way, I made a big shift from thinking that I grew my own food to realizing that I cared for this miracle that is the soil, and in doing so, was blessed with abundance. For me, this is a way of knowing and of being in the world that has to be felt and experienced through thoughtful work in order to be understood. It is the foundation for the kind of earth-centred philosophy that we need so badly if we are to preserve this planet for future generations.

Janette Haase recently published the book From Seed to Table. She lives north of Kingston and runs gardening workshops that are based on seasonal gardening practices. At each monthly session, gardeners gather for a meal involving local seasonal food, a talk on what garden work is required for that month and a discussion on broader food issues. When Janette is not gardening, she is usually busy teaching horse riding.

Stepping Up to the Plate: The Screaming Avocado Hits a Home Run

by Stephanie Murphy

Do you know how to poach a peach? Have you ever cooked with a Moroccan tagine? Can you make a potato-based dessert? Have you ever experimented with phyllo pastry or participated in an "Iron Chef" type of competition? I recently had the privilege of meeting a group of 48 students aged 16 and 17 who can do all of these things and a whole lot more – whilst also preparing lunch for upwards of 200 people. When I was 16, I thought it was a considerable success just to produce a dinner of spaghetti and meatballs for my family of five. These teens blew me away.

As a teacher candidate in the outdoor and experiential education program at Queen's University, I was thrilled to be able to spend four of my practicum weeks working with Paul Finkelstein and Dean Elieff – both teachers and chefs by trade – in their culinary arts program at Northwestern Secondary School in Stratford. Together, the professionals and their young apprentices run a café in the school. Called "The Screaming Avocado," it's actually in competition with the school's regular french-fry and greasy-pizza cafeteria.

When grade 11 and 12 students register for a double-credit course in culinary arts, they're signing up for a semester of really practical life-skills learning. Even if they do not all go on to become the Jamie Olivers and Mario Batalis of tomorrow, it certainly doesn't hurt them to learn to cook. Since eating is one of the most basic necessities of life, knowing how to cook can be considered one of the most basic life skills – and doing it *well* is certainly to one's advantage. Particularly in these tough economic times, it comes in handy to know how to make a decent and

nutritious meal from a handful of inexpensive staple grocery items. Homemade burritos and coleslaw anyone?!

While I was at "The Avocado," as it is lovingly called, I was delighted to see how much the café means to the students and staff at Northwestern. I noticed many of the same customers buying their lunches day after day – and who wouldn't, when the menu changes daily! And when three dollars buys a plate of homemade lasagna, caesar salad and freshbaked bread, or braised Korean short ribs and stir fry with rice, a brown-bag lunch seems rather inferior.

The Northwestern community certainly appreciates the fruits of the students' labour, but what struck me even more were the students who came to staff the café during the busy lunch service. These students volunteer to spend their lunch hours behind the counter, serving up heaping plates of the day's creations, replenishing the tubs of fresh salad and warm-from-the-oven bread, and scrubbing endless stacks of dirty pots and pans. In return for their hard work and commitment, they receive a free lunch at the end of their shift.

It didn't take long to notice that it was the same students helping out every day. I began to catch on: the café was a "safe space" for these students. Many of them get picked on and bullied during the rest of the day, but when they are in the café, they feel a sense of belonging and a sense of being critical to the success of the whole operation. I even overheard one student say, "This place gives me *meaning*." The café is not only feeding the students' bodies, but also their self-esteem and self-worth.

It was also refreshing and inspiring to see how "Fink" (as Paul is known to most of his students) really has the health and wellbeing of the students at heart. His cooking in the café is the healthy and affordable alternative to the deep-fryer fare of the regular cafeteria, and it is clear that he is a confidant and mentor to a lot of different students in the school.

While I was there, an issue arose with a small group of grade 7/8 students caught smoking on school property during their lunch break. Although primarily a discipline issue for the grade 7/8 teachers and the school principal,

when Fink got wind of it, he proposed a "cooking therapy" solution, a healthier activity to occupy these students' time. An agreement was made and the students in question began

reporting to Fink when their daily lunch bell rang. He gave them a different project each day – baking muffins or cookies, preparing items for the café's new breakfast menu – and along with recipes and cooking instructions, he also doled out an appropriate dose of counselling regarding the evils of smoking and the benefits of making healthy life choices. The plan seemed to be working. The young students were happy and enjoying their time in the kitchen, and they were no longer loitering on the sidewalks with cigarettes hanging out of their mouths. I can only hope that this continued after I left.

Witnessing the miracles that Fink is working in The Screaming Avocado made me lament the fact that not all students in our school systems are getting this sort of basic life-skills education. When the preparation and sharing of food is so central to our survival, as well as our cultural and social identities, something is amiss when we are not formally educating the younger generations in the traditions and skills of food preparation. In an age of fast food, oven-ready pizzas, takeout and pre-fab meal components, few students are getting this food education at home, which means they are missing out on some pretty essential survival skills. Schools need to start filling

this gap in education and stepping up to the plate, so to speak, by providing kids with opportunities to learn more culinary skills than come from a muffin-baking lesson in the typical home-

economics class. It's time to get back to the basics and learn how to feed our bodies as well as our minds.

Steph Murphy, from Kingston, Ontario, is a Dalhousie University English graduate and current Queen's University B.Ed. student who has spent the past two years sailing around the Baltic and to Argentina, Antarctica and South Africa as a cook's assistant and deckhand on board the barque Europa. "If I'm going to make the world a better place, I'm going to do it with cookies."

Sowing the Seed for More Food Gardens

by Colin Harris

"Learning in the school garden is learning in the real world at its very best." (Capra, 1999, p. 8)

About a year and a half ago, I read *The 100-Mile Diet* by Alisa Smith and J.B. Mackinnon (2007), a Vancouver couple who ate only food grown within a 100-mile radius of their home. I felt the need to challenge myself, so in May 2008, I naively started a year-long venture of eating a local Ontario diet. Granted, I made some exceptions, but gone were frozen pizzas, avocadoes, bananas and a lot of other foods that I had been accustomed to eating. I was introduced to the world of farmers' markets, canning, preserving and, more importantly, really finding out where my food came from.

Today, as more and more Canadians move from rural to urban areas, there is a growing disconnect between people and the food they eat. Grocery stores are packed with processed foods and children are inadvertently led to believe that their food comes from these brightly lit aisles of endless choice. This age of convenience has brought us processed foods that are leading to both health and environmental concerns, arguably reaching epidemic proportions. For many students (and adults), there is a gross lack of understanding of food systems.

In the Ministry of Education's new policy framework for environmental education, *Acting Today, Shaping Tomorrow* (2009), the vision states:

Ontario's education system will prepare students with the knowledge, skills, perspectives, and practices they need to be environmentally responsible citizens. Students will understand the fundamental connections to each other and to the world around us through our relationship to food, water, energy, air and land, and our interaction with all

living things. The education system will provide opportunities within the classroom and the community for students to engage in actions that deepen this understanding.

What better way to implement this vision than with a food garden! In Strategy 2.2 of the policy, the ministry speaks of enhancing student engagement. Schools will "enrich and complement students' classroom learning by organizing out-of-classroom experiences and activities (such as the naturalization of the school yard)" (2009, p. 17). The policy also outlines that environmental education must include an appreciation for the interactions of:

- the Earth's physical and biological systems
- the dependency of our social and economic systems on these natural systems
- the scientific and human dimensions of environmental issues
- the positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems.

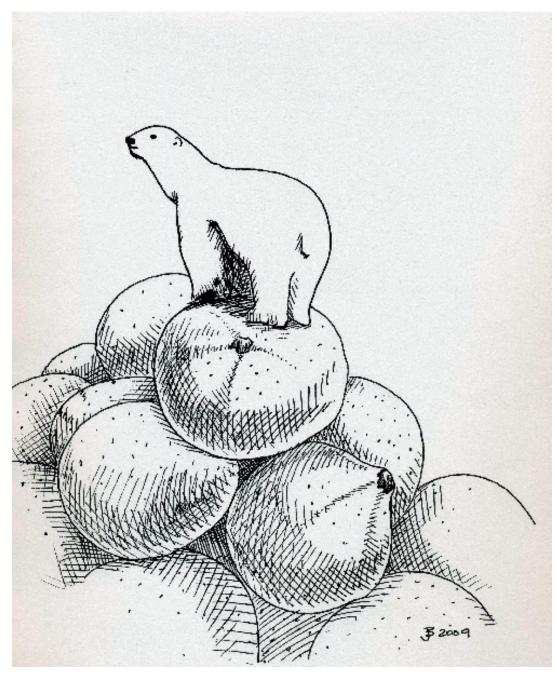
A food garden keys in on all of these points.

Gerald Marten speaks of adaptive development, questioning whether this can help create an ecologically sustainable society. In the context of the school food gardens and community gardens, he states, "gardening puts [people] in touch with ecosystems in numerous ways. Organic gardening has particular potential to increase ecological awareness" (Marten, 2001). Marten goes on to discuss corporations that are making sustainable development a priority, realizing that the future of business corresponds directly with the health of our planet. If big businesses can see the benefit of projects such as rooftop gardens, then surely there are benefits for our educational system to

provide learning opportunities in similar environments.

David Orr (1996) uses the term "slow knowledge" to describe a learning style that values patience and wisdom over speed and expedience. The school food garden seems to be a good example of this. The work required of students in the garden is a trial and error process. Students will develop an understanding of their bioregion, knowing

when to worry about frost, which months are ideal for planting certain vegetables, when migratory birds come to feed on seeds, etc. As the food garden progresses, students will become more familiar with this ecosystem. The hope is that this would cause a shift from an anthropocentric view to a more ecological worldview. In short, the garden helps narrow the gap of our growing disconnect with the natural environment.



In his latest book, *In Defense of Food*, Michael Pollan (2008) points out that the processed foods being sold to children (and adults) are leading to increased diabetes, obesity, food-related cancers and heart disease. If for no other reason, school food gardens are a way to educate students about healthy eating habits, giving them a solid understanding of where food really comes from.

The food garden also links to curriculum and grade-level outcomes. This allows students to learn in a different context, which is a key component to the new environmental education policy. The garden provides a natural learning environment with a direct connection with nature. Students will feel empowered to make a difference, "since growing food provides a clear and immediate sense of how one's actions affect the world" (Abelman, 2005).

In California, there are over 2,000 schools using food gardens for academic instruction in various subjects. Besides the garden itself, some schools, such as Martin Luther King Jr. Middle School in Berkeley, have started a lunch program called The Edible Schoolyard, which helps connect the students to the food they eat. Richard Louv, too, endorses the benefits of implementing gardens in schools. A teacher he chatted with said, "For us, the garden has been much more than simply planting vegetables and taking care of them. It's been a bonding experience. When we go to the garden as a class at the end of the day, there is a strong feeling of shared joy and peace no matter how hard the day has been" (Louv, 2008).

At our centre, we're starting a small food garden this year. Personally, I'm excited to work on my green thumb. For students, however, it will be an opportunity to see, perhaps for the first time, a variety of foods – carrots, tomatoes, peas – actually growing in the ground. Implementing more food gardens will play a role in promoting the environmental wellbeing of our community,

leading students to form a deeper appreciation of the natural world that sustains us.

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Grains, Grains and More Grains

by Louise Racine

We're all familiar with common grains like rice, corn, barley, oats and wheat, and products made from them (pasta, couscous, bulgur). Currently, there are many more grain options available on the market.

In recent years, many consumers have moved away from grain products due to the high carbohydrate content. This is not necessarily a bad thing when it comes to refined white carbs like pasta, breads and rice; however, whole grains do provide many nutritional benefits and are important for a healthy, balanced diet.

A Few Words About Wheat

Wheat is one of the most over-consumed foods in our diet. It is used in everything from breads to soy sauce. When processed, this grain is stripped of important nutrients. Wheat is a crop that has been genetically engineered and is laden with agricultural chemicals. It also has a high gluten content, which may cause problems in the microvilli of the intestines and prevent the absorption of nutrients.

Alternatives to Wheat

Many common grains are related to wheat, including kamut, spelt and teff. The following specialty grains have a high nutritional value and are some of the best sources of protein in the vegetable kingdom. They can be found in some grocery and bulk-food stores and most health-food stores.

Spelt is available as a kernel, ground into flour (light and whole varieties) and as flakes that you can use for baking or as a breakfast cereal. Spelt is high in complex carbohydrates, B vitamins and iron. Baked products made with spelt are now available in stores and spelt

flour can be substituted for wheat flour in most recipes.

Kamut can be found as kernels, flour and flakes. It has more protein than regular wheat and contains B vitamins, iron and magnesium. Kamut is also used to make pasta and breads.

Quinoa (pronounced keen-wa) is related to leafy vegetables such as Swiss chard and spinach, though you won't find it in the produce section. It is high in iron, potassium, riboflavin, magnesium, zinc, copper, manganese and folacin. Quinoa is quick and easy to prepare and cooks to a light and fluffy, unsticky texture, increasing three to four times in volume. It can be served as a side dish like rice; in soups and salads; in main dishes like stews, pilafs, casseroles or stuffed peppers; and as a nutritious breakfast cereal.

Amaranth is from a broad-leaf plant and is high in calcium, folacin, magnesium and iron as well as the amino acid lysine. When



simmered, whole amaranth seeds become a thick, gelatinous, oatmeal-like consistency – an excellent thickener for soups and stews. Amaranth can be cooked with another grain (or grains), such as brown rice or buckwheat, used as an alternative to rice or enjoyed as a breakfast dish or dessert.

Buckwheat is the fruit of a leafy plant, and unrelated to wheat. It is high in B vitamins, iron, fibre, potassium, calcium and lysine. It can be served as a side dish or porridge and is a great alternative to rice. Since the distinct nut-like flavour is intense, it can be combined with rice, quinoa or vegetables. Kasha is roasted, hulled buckwheat kernels, cracked into granules.

Teff is the smallest grain in the world, but it supplies more fibre-rich bran and nutritious germ than any other grain! It has 17 times the calcium of whole wheat or barley. Teff has a nutty flavour, and brown teff makes an excellent breakfast cereal. Teff flour is used to make tasty quick breads and pancakes. It can also be added to soups and stews. Leavened bread can contain up to 20 percent teff flour.

Millet is well balanced in essential amino acids and is the most alkalinizing whole food known to humankind. It is an excellent source of calcium and protein, contains magnesium and potassium and has more iron than any other cereal. Millet is a sweet-tasting grain, suitable for breakfast or for making desserts, but it is also used in main dishes. It is a multi-season grain, which means it is good to eat both summer and winter. For optimal nutrition, serve millet with legumes.

Whatever new grains you decide to try, you'll want a fresh product, so purchase them from a store with high turnover. Because whole grains have a higher fat content than refined grains, they are more prone to rancidity. For optimal freshness, store them in sealed glass or ceramic containers in a cool, dry, dark place.

Variety is the key to a healthy diet, so why not experiment with some new grains this season?

Quinoa Nut Salad

½ cup/125 ml	quinoa (or 11/4 cups/310 ml
	leftover cooked quinoa)
2 tbsp/30 ml	olive oil
2 tbsp/30 ml	lemon juice
¹⁄₄ tsp/1 ml	salt
1/8 tsp/0.5 ml	pepper
½ cup/60 ml	golden raisins
3/4 cup/175 ml	raw almonds, coarsely
	chopped
½ cup/125 ml	raw cashews, coarsely
	chopped
½ cup/125 ml	walnuts, coarsely chopped
2 cups/500 ml	fresh peaches, peeled and
	chopped
⅓ medium	cucumber, cubed
½ cup/125 ml	cooked aduki beans
1 tbsp/15 ml	chopped pitted black olives

Rinse quinoa well in strainer under running water. Dry over low heat in saucepan. Add 1 cup of water, bring to boil, cover and cook for 20 minutes. Set aside to cool.

Put the olive oil, lemon juice, salt and pepper in a jar and shake until mixture has thickened.

Put the raisins in a small bowl and cover with boiling water. Let stand for 10 minutes, then drain.

Combine cooked quinoa with raisins, nuts, peaches, cucumber, beans and olives in large mixing bowl. Pour mixture over salad and toss gently but thoroughly to evenly coat all ingredients. Taste and adjust seasonings. Cover and chill before serving. Serves 4.

Louise Racine is a certified nutritional practitioner who wants to make a difference. She runs Thirteen Moons Wellness Retreat near Peterborough. You can contact her at www.thirteenmoons.ca.

Sprouting School and Community Gardening Education

by Mike Payne

Outdoor Experiential Education? Now that I'm 34 and have a young family in Kingston, my focus has shifted from white-water paddling to gardening. This is quite a shift, but I've found that growing food can be as transformative as a challenging, remote group experience, the usual crucible of outdoor ed. Watching a seed sprout can be as awing as a sunset on day ten of a canoe trip, and gives rise to an understanding of environmental, political, economic and social issues around food.

There are a lot of ecological lessons in gardening. There are no quick fixes, no free lunches and everything is interconnected. You need to plan ahead, understand your soil and listen to the rules of diversity and interdependence. Different crops prefer different soil conditions and different neighbours. Convenience always comes at a cost: synthetic soil fertilizers feed the plant but not the soil; hybrids may give great yields, but don't reproduce so you have to buy seeds every year. Failure to rotate your crops can lead to plant disease and poor yields. Even with all of our technological advances, the weather cycles dictate all - taste, texture, productivity and survival. Being part of the growing process is both humbling and inspiring.

Growing or participating in a garden leads you to a lot of hard-won knowledge, including, eventually, a real understanding of seed issues. A new gardener usually picks up a vegetable gardening book, plans the plot and buys seedlings on Victoria Day from Canadian Tire. The next fall, dreaming of higher yields, more beautiful plants, our gardener buys a seed catalogue and a few more books and grows the crop from seed.

Sometime during that year or the next, the gardener learns the difference between hybrid and open-pollinated seed. Maybe a neighbour who cultivates a nearby plot asks another person for an interesting tomato, thinking they can just use the seeds in it next year. Too bad, though, it's a hybrid. Eventually she figures out that instead of a \$50 seed order every year, she can save seed from her best plants for free. Even better, now that she knows some other gardeners who save seed, she can browse their beds for crops she likes and ask to trade seeds that will actually grow the next year.

Later, our gardener walks the farmers' market with different eyes, talking to the market gardeners about what they grow and how, buying food and possibly seeds suited to more local conditions and with the possibility of sustainability in mind. When she comes home she looks at her fridge and pantry in a new light.

This progression is almost inevitable in a community garden. By cultivating a small space intensively, right next to 10, 20, 50 other people and their beds, which sit there like an open book, a person begins to browse. Without ever knowing that there were profound issues of poverty, law, governance and global order, you would come to the conclusion that saving seeds makes sense.

My group experience with gardens thus far has been in allotment-style community gardens, where members cultivate their own private plot. I have worked on community outreach projects that include starting new community gardens in lower socioeconomic areas of Kingston as well as trying to create partnerships with local food banks, and



emergency food providers. Now I am trying to integrate food issues into the public school system.

I am currently involved in a project to develop a garden program for elementary grades 4 to 6 where there will be a small garden on-site. The "Grow" project will use a small tomato garden to connect students with each other and the school with the community. Groups of two will "adopt" plants from a local farmer and plant them in the garden. Larger groups of four to six will be responsible for weeding and watering once in the summer. The fall harvest will see the produce go to a nearby food bank.

I am trying to find a way to match the cycles and demands of gardening with those of high school courses and calendars – to go further than starting seedlings near a window. In Kingston, we have a system of focus programs that allow teachers to develop a four-credit, all-day, all-semester package around their passion. Furthermore, the Specialist High Skill Major initiative gives teachers the opportunity to develop brand new integrated courses in all boards. You can also start by liaising local gardens with school culinary programs and cafeterias. There is lots of room in the geography, science and family studies curriculum to talk about food issues. Better than talking, of course, is to get your students growing.

Mike Payne can usually be found at any gardening, food-related event in Kingston. He is a Queen's University Outdoor and Experiential Education graduate.

A Bite in the Right Direction: Linking Up Farms and Schools in Halton and Peel

by Monika Kastelic

I've just finished my B.Ed. Outdoor and Experiential Education degree at Queen's University and I can't wait to head back to the organic farm where I worked for the previous three years! This attitude is not due to the looming "teaching job shortage" nor does it convey that I have been turned off of teaching. Instead, my past year of mulling over the practicalities and philosophies of education has strengthened my belief that food education is vital to global ecological sustainability and is one of the most effective approaches to experiential learning.

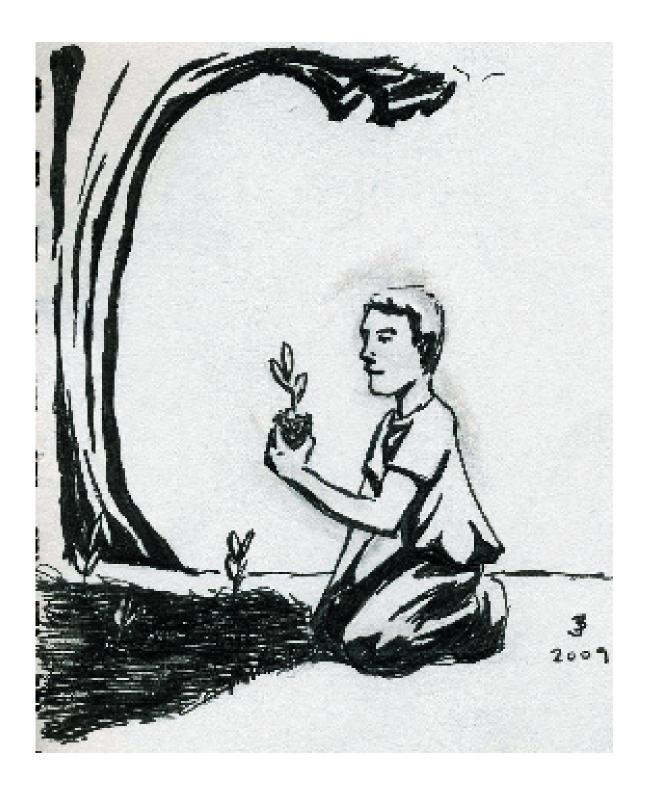
This type of education was once solely based on survival – in order to pass food procurement strategies on to one's offspring. But now it is being rapidly revived by visionary organizations, schools and other institutions that embrace foresight and a holistic understanding of environmental stewardship.

Food education offers a refreshing, multisensory lens through which to explore the interwoven connection that humans have with the rest of life on Earth. Activities based around planting, harvesting, storage, food preparation and seed-saving techniques build appreciation for local, place-based knowledge and diverse ecological practices. When experiential hands-on activities are combined with policy-driven, school-based initiatives, these programs can achieve a level of influence that reaches new heights!

I have had the opportunity to work with two such Farm to School programs that recently sprouted up in southwestern Ontario. Both focus on student nutrition, sustainable food choices and ongoing school-based action, and both offer many insights that are relevant to educators interested in initiating food education programs in other regions. Now in its third year, EcoSource's Youth and Local Food program continues to help students across Peel Region learn about the benefits of local food choices. Through field trips to nearby farms, classroom workshops and snack ideas incorporating local ingredients, youth are learning that conscious food choices can be a powerful way to "take a bite out of climate change" (Young, 2008).

"Were it not for this program, I would not have a clue what local food was," says grade 12 student Rohit Mehta about his visit to Greenfields Organic Farm in Campbellville and of his participation in a Local Food Feast at the Elliott House Restaurant and Chef School in Mississauga. "Local foods have been top of mind for me ever since I had the chance to meet and talk to farmers. I have been exposed to fresh food from farms, methods of harvesting and preparing, and I have realized that local food is not only available, but it's great!" (Young, 2008).

Food education is also gaining exciting momentum with the neighbouring Halton District. With support from EcoSource, students at the pilot school, St. John's in Burlington, took part in a local-food workshop last fall and have since been enjoying more local produce in their school's student nutrition program. This spring, they visited nearby Greenfields Organic Farm to gain an experiential perspective on how their choices impact the local community and environment. With at least four more schools on board this year, the program holds great potential to reach many more students and their families.



Jessica MacKay, a public health dietitian with the Halton Region Health Department and chair of the Halton Farm to School committee, emphasizes that working with the flow of existing board infrastructures has been key. Halton Food For Thought and Student Nutrition Programs already exist in over half of the region's schools. Current Student Nutrition Program guidelines specify that, when available, food produced in Ontario should be purchased. The new local-food program, which aims to increase the amount of local produce in participating schools by at least 5 percent each year, will therefore work to strengthen these guidelines.

In order to measure success, baseline purchasing information is collected before a school engages in the local-food program. Data from the pilot school's first season reflects a 50 percent increase in local-food purchases, defined as food that comes from within a 150 km radius of the school. "The fall harvest season certainly helped with getting St. John's off to a good start," remarks MacKay. Finding adequate, consistently reliable sources of local food while balancing what schools can afford and what farmers deserve to get paid remains a key challenge that will require additional research and creativity. Developing mutually beneficial partnerships with farmer-run organizations such as the Ecological Farmers Association of Ontario (EFAO) is one strategy for sourcing local foods that EcoSource has found to be successful.

Future goals in Halton include reviewing models from other community food education programs for getting students more involved in the preparation of local snacks at their schools. The abundance of excellent school food garden resources and programs run

through organizations such as Evergreen and FoodShare in Toronto are a source of insight and inspiration for educators interested in exploring on-site food production.

Both EcoSource and the Halton Board's Farm to School model have a critical component in common: they engage students in the issues facing local farms, and provide a structure for students to put their knowledge into action. This new generation of farm to school programming engages students in the inquiry process and presents an opportunity for them to reflect on the connections between daily food choices, vibrancy of nearby rural communities and global ecological integrity.

Local-farm field trips allow students to taste, touch, smell and see food right at the source. They meet face-to-face with the passionate, knowledgeable men and women who have dedicated their lives to growing food. There are opportunities for legends and storytelling about the history of the land. And, of course, often the chance to observe and even meet some working and/or "retired" farm animals. If you are looking for a fresh new approach for sowing the seeds of stewardship, place-based thinking and activism, I encourage you to consider the diverse potential of food education and farm to school programming.

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Monika Kastelic believes that food education can feed the principles that she holds most dear: respect for one's body, community engagement and ecological sustainability.

Food Education in a High School Integrated Program

by Michael Elrick

Ten years ago, I took my high school class to a student conference hosted by the Bronte Creek Integrated Program in Burlington. In addition to participating, I also led a workshop on straw bale housing. Prior to each time slot, the workshop leaders presented a short summary to the students. I gave my little spiel about straw bale housing (which I was obsessed with at the time) and then listened to the others. One young man rose and said that his workshop was going to be about food. I can still quote him - he said: "If you really want to make a difference in this world in terms of saving the planet, forget about transportation and housing, think food!" In my head, I snickered quietly and murmured to myself, "Food? Who is this guy kidding?"

I share this story because I truly had it wrong back then. Today, I believe food is one of the most accessible ways in our education system to teach important environmental and outdoor lessons. For four years I have taught a four-credit integrated course package called Headwaters at the grade-12 level. Food is a theme that runs through all our course curriculums and that we approach through four main entry points.

Entry Point #1: Our grade 12 Environment and Resource Management Geography course

We journey through the 10,000-year history of agriculture and then paint a picture of it in its present form, with a focus on the Haber-Bosch process of making fertilizer using natural gas. We ask questions about the sustainability of today's industrial agricultural model and look at alternatives such as certified organic and locally based. We visit a nearby biodynamic farm that is part of CSA (Community

Supported Agriculture) and has an internship program. The role modelling alone – meeting a half dozen "under-30" interns excited about making a career in farming – is well worth the field trip.

Entry Point #2: Growing a garden in the side and front yards of our school site

We begin seeds in a makeshift 4-foot by 8foot greenhouse, and then transfer them to four cold frames and an outside 20-foot by 40-foot patch of hand-dug, double-dug and continuously rock-excavated soil. We focus initially on crops we will be able to harvest within the May and June period: this includes rhubarb, garlic, asparagus, spinach, radishes, green onions, lettuce, arugula, Swiss chard, peas, zucchini and herbs. Later we plant root vegetables such as potatoes, onions, carrots, beets and parsnips for use in the February and March meals of next year's class. We also gather from the land, which includes collecting fiddleheads and watercress, and running an 80-bucket maple syrup operation.

Entry Point #3: Chickens

In our second year, we bought five laying hens from a local CSA farmer and built a small chicken coop. Feeding and watering the chickens and collecting their eggs are part of the daily chores. We also use their manure to make yearly compost batches to feed back into the soil. For the first time, the students slaughtered the chickens last year and used the meat in a final celebratory meal with parents. In many ways, the chickens complete the cycle of sustainability as they fill in the circular journey with their eggs and manure. I often say to my students that the lettuce leftovers they throw to the chickens come back to them in eggs and manure that then

feeds the soil for more lettuce, and around it goes.

Entry point #4: Preparing and eating a meal as a class once a week

My assignment guidelines state that the meals must follow locavore principles. In essence, this is defined as getting as few chemical inputs as possible. Initially students think the food will taste gross. They then sample a soup to die for, made with parsnips dug out of the winter snow the day before. And as the semester progresses, we venture into such hardships as rhubarb pie sweetened with maple syrup and fresh lettuce salads that make taste buds dance in delight. Through calculating our food mileage and connecting with local farmers, we learn how we have lowered our ecological footprint and supported a local agricultural community. In my opinion, the most important environmental lesson of all is that the issues of sustainability go hand in hand with living a life filled with the benefits of quality food and

an awareness of its acquisition. I often state to my students, "We are going to eat our way out of this crisis, with good-tasting food!"

Humble is a word I often use when it comes to teaching issues of food. I am humbled by food's interconnection with all subject areas. I am humbled by its ability to captivate during moments such as growing, harvesting and cooking. I am humbled by the knowledge and wisdom embodied in farmers who are involved with sustainable forms of agriculture. And finally, I am humbled by the community-building effect of a locally grown and gathered meal. I wish I had attended that other workshop so many years ago and skipped mine.

Michael Elrick teaches two integrated high school programs in Guelph, Ontario: CELP (Community Environmental Leadership Program) at the grade-10 level and Headwaters at the grade-12 level. For more information on these programs, visit www.celp.info

Improving "Ecological Literacy" Through Food **Education**

by Stefan Superina

Review of Barlow, M.K. & Barlow, Z. (Eds.). (2005). Ecological literacy: Educating our children for a sustainable world. San Francisco, CA: Sierra Club Books. (ISBN 1-57805-153-3)

Canadians live in a culture of excess, and food is no exception. While food prices continue to soar and documented cases of global food shortages become increasingly apparent, Canadians continue to throw out more food than ever. Collectively, residences, food manufacturers, restaurants, grocery stores and commercial enterprises such as schools and hospitals manage to discard enormous quantities of edible food without regard for ecological consequences.

There must be a cultural and pedagogical shift in our approach to food education - and the foundation for this shift must commence from within our educational institutions. For many young children, especially those residing in urban areas, there is an increasing disconnect with the natural world. There is a lack of understanding of the natural cycles that produce the food they consume on a daily basis.

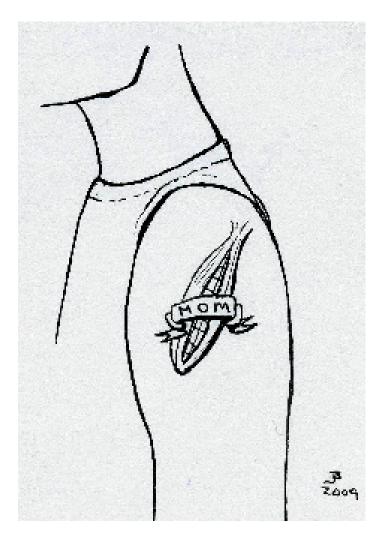
Continued illiteracy with regard to food education is having devastating consequences on children's health. Poor nutritional choices are correlated with increased rates of obesity. School children are at risk for cardiovascular diseases, diabetes and a host of other serious health problems related to dietary intake. In an effort to combat the dearth of food education initiatives, educational institutions must be role models for the rest of society. Schools can draw upon a vast amount of research and knowledge to implement programming activities that encourage healthy, active living.

Ecological Literacy: Educating Our Children for a Sustainable World is an invaluable resource for

educators and parents who want to improve children's ecological understanding. In this series of reports and essays compiled by the Center for Ecoliteracy, in Berkeley, California, contributors have identified remarkable ingenuity taking place in schools across the United States. Divided into four parts, the literature focuses on Vision, Tradition/ Place, Relationship and Action. In particular, intriguing initiatives through food education are documented. Essays address issues pertaining to fast-food values versus slowfood values, sustainable lunch menus, schoolbased gardening projects and local farming, in addition to a multitude of other enriching contributions.

Educators, and the institutions in which they teach, play a fundamental role in instilling attitudes that lend themselves to success. An ecologically literate student must acquire the intellectual capacity to comprehend nutritional responsibility. Educating Our Children for a Sustainable World indicates the growing number of educators, parents, students and school administrators who are diligently working to provide formative experiences in relation to food education that encourage sustainability and activism.

Increasing trends in urbanization and suburban sprawl continue to desecrate land traditionally used for agricultural purposes. Consequently, children have lost their connection with food and the land. Schools do little to educate their students in light of this issue. Conversely, numerous schools engage in lucrative contracting with multinational corporations that make marginal efforts to improve awareness of



food-related issues. *Educating Our Children* for a Sustainable World provides first-hand evidence that locally based food initiatives can reverse this disturbing trend. Essays demonstrate that educators, parents and school administrators have the capability to orchestrate programming that brings locally produced foods back into school cafeterias. Additionally, through these types of initiatives, schools can provide students the opportunity to connect with local farmers and discuss issues related to sustainability and stewardship.

Engaging communities in local-food initiatives is integral to supporting and nurturing food education. Perhaps most

important is the ability to export ideas and make them external to the classroom. School gardens and food projects lend themselves to this idea. Educating Our Children for a Sustainable World describes school gardening projects where children plant, grow and harvest fruit and vegetables. Community involvement is actively encouraged and local experts assist in the operation of the project. Students gain a deeper appreciation for the effort and due diligence that is required for food production. This is in stark contrast to the prevalence of large-scale grocery chains, which do little to educate our youth on the value of food. As a result, food is considered easily disposable, and discarded without remorse or thought.

Creativity in the classroom can address food education from a variety of curricular connections. Teachers and school boards must assume the moral and ethical responsibility required to

reverse disturbing nutritional trends among our youth. Food education initiatives will assist in this endeavour. The consequences of foregoing this responsibility will do a great disservice to future generations.

Stefan Superina, from Toronto, Ontario, is a current Queen's University B.Ed. student enrolled in the Outdoor and Experiential Education program. A graduate of McGill University, Stefan's past outdoor experiences include guiding wilderness canoe trips for Camp Wabun in Temagami, Ontario, and leading dog sledding trips for Chocpaw Expeditions in South River, Ontario.

Outdoor Education: Wilderness Canoe Trip or Local Subsistence Garden

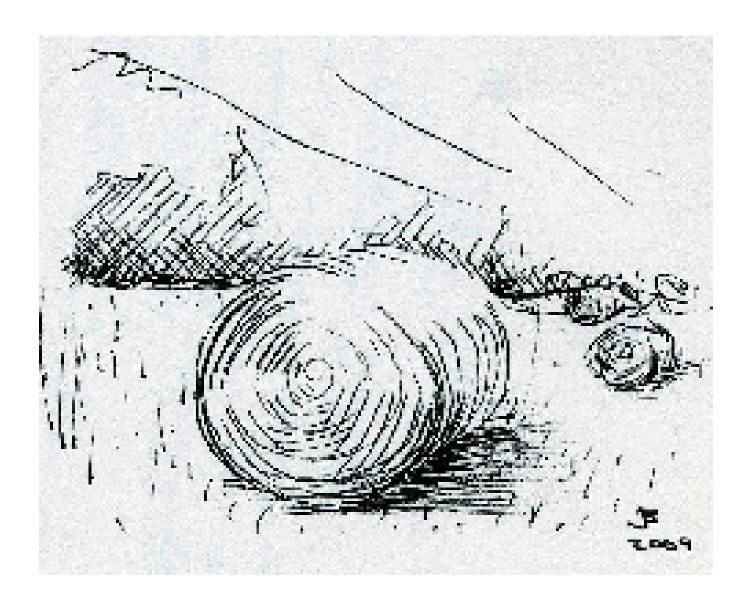
Zabe MacEachren interviews Bob Davis

Bob Davis is not on the lecture circuit for his canoe-tripping adventures, nor has he authored a best-selling book on gardening or cooking. Yet people who know him think Bob could have made a name for himself in both of these areas. Instead, he has chosen to follow his interests and passions away from any spotlight of recognition. And it was Bob's decision to spend the bulk of summer 2008 in his garden instead of in a canoe that led me to interview him that fall. I have heard many avid canoeists say they have no interest in gardening. Personally, I have always felt torn between my garden and my canoe. Perhaps Bob's story would help me find a happy balance.

Bob was a teenager when he made his second canoe trip, a solo experience that took him from his home in Haliburton to the shores of James Bay with virtually only an Ontario road map to guide him. Since then ... well, I heard a friend of Bob's say that the man has paddled more rivers in Labrador and Ontario than almost anyone else. So what would cause such an experienced canoe tripper to hang up his paddle for the summer and pick up a hoe? Bob's answer to this question had him recalling an influential experience from his youth. In vivid detail, he recounted one of the last noon-day harvest meals shared by a community of local friends. "In my grandfather's time, I remember when the harvest happened and all these old guys came out to help. I was the one young person at the table - you could see the writing on the wall.... It was partly like a ritual around food, where people were connected through food, their work and the product of this work. It was a wonderful thing, the work was a joy - one of the reasons I got so hooked on country culture."

Even as a young person, Bob recognized that many from his generation were leaving the farms to find city employment and that skills that had supported a livelihood in this region would soon be fading away with the aging people who had sat around the table. Everything on the table had come from local farms and represented the shared labour of a farming community. The skills – how to work the land so one could eat such a feast – resided in the people he was sharing company with. It became pretty evident that the writing on the wall stated that such an existence was disappearing.

In his early years, Bob spent his summers canoeing, reading authors like Wendell Berry and learning how to be a blacksmith to support himself. When he inherited some of his family's land, he set out to build himself a log-cabin home and share the task of keeping a small vegetable garden with his parents. In retrospect, he realizes how the political and social systems were designed to discourage people from living a simple homesteading life and instead promoted development in the region. Bylaw restrictions prevented him from building a small home and would result in higher taxes. Decades later, Bob would reflect upon how we are not encouraged to design homes that fit with local regional features. If he could do it all again, Bob says he would have spent those years focusing on food education, specifically learning to put food on the table through gardening and hunting. His advice to young outdoor enthusiasts would be to spend less time on building a home and more on learning the skills associated with putting food on the table. One aspect of homesteading should not take over other areas, especially "at the expense of growing



your own food." If Bob were a school teacher, he would probably say that acquiring food is the most important subject there is.

In Haliburton, there is not a lot of good land for gardening and farming. Bob recognizes how fortunate he has been to have access to some of his family land. "The most valuable part of what I do is the garden. This is good land for this area. It is a gift," he states. The "free-er" you are of stuff, the more joy you have. "What do we really need?" is the type of

question Bob ponders as he works his garden plot.

When his son was born, Bob realized he could not spend as much time away canoeing. Although he took his son on many canoe trips and winter trips, he gradually gave up the paddle and spent more time with the hoe. As talk of climate change became more widespread and the garden began to take up more of his life, Bob wondered if a person could be totally self-supporting on a small

plot of land. Trying to reduce his energy consumption, he looked into changing his blacksmithing practices, using local wood instead of coal as fuel. Inspired by an old friend's root cellar, he dusted off his copy of *Root Cellaring* by Mike and Nancy Bubel and began learning how to extend the bounty of his garden past the summer and fall months by storing vegetables in a manner that left a very low-energy footprint – without refrigeration.

I asked Bob if he thought differently about the land when on a canoe trip versus when in his garden. He replied: "On my last canoe trip, I was very immersed in that world ... totally engrossed and amazed at where I was, not thinking about what was going on in the big world or about weeds taking over the garden ... It's nice to be in the natural world and swept up in it." I continued: But do you think about these things while in the garden? Bob replied that canoeing was the simpler life - there was such a freedom and joy, a real awakening in this activity. As his garden is closer to a radio, he recognized that he had to work a bit more at keeping the act of gardening simple, or a tide of "consumerrelated ideas would infiltrate" his thoughts. For guidance, he looks toward the Mennonite and Amish cultures as they actively make choices and try to limit themselves about consuming energy.

Bob frequently talked about the importance of balancing interests, making space for some priorities while trying to prevent others from becoming all-consuming. He recognizes how difficult it is to learn some skills when there is no longer a culture of neighbours around you to learn from and to support some activities. He confided that he has not had the time to learn how to save his own seeds, but he hopes to some day. Important in his notion of balance was seeking something not only

in the context of daily but also in the yearly cycle of seasonal activities. He suggested "the brotherhood of gardening canoeists" ideology. A few friends who learned these lessons through their work in initiating community-sustained agricultural garden projects inspired this idea.

Successful projects most often result when everyone has similar values regarding food and country culture. Without this shared understanding of what it takes to put food on the table, many gardening projects dwindled, as only a few individuals were passionate enough to put in the energy/work to actually produce the amount of food required or envisioned. "Not everyone has maintained such notions of what food is," said Bob. The brotherhood of gardening canoeists is about establishing a network of people who are committed to sharing the work involved in maintaining a communal garden in order to support a rotation that lets members take time away from gardening work to continue their canoe trips. This rotation could be established on either a yearly cycle or for shorter periods of time between weeding and harvesting peak times.

Most of Bob's knowledge of gardening was passed on to him from his mother, who was raised in a time when it was considered essential to have a garden. His favourite gardening book is Four Season Harvest and he likes Bill Mollison's ideas in Permaculture. Bob interprets permaculture as something more like growing an ecosystem. He acknowledges that farming is a radical alteration of the landscape, "the land should not look like a quilt all over the place." He also recognizes that climate and landscape should influence what is grown and eaten. "Stone farms don't support vegetarians. Farms should be mixed farms." When he was young, he remembers the land being green, not tilled

and brown. He agrees with Michael Pollan's ideas in *The Omnivore's Dilemma*, that humans should eat a mixture of plants and animals. He understands that tofu is not a benign substitute for meat, as it is heavily sprayed. Bob admires the country living skills of the past as they allowed everyone to live off their own landscape. Even farmers would hunt, fish and preserve berries. He describes how his grandmother knew about the first fresh greens, such as lamb's quarters. He suspects such wild-harvesting skills decreased once garden produce became reliable and, later, grocery store vegetables became staple products year-round.

After Bob described how he could live from gardening and hunting, and the wonderful feeling he gets from walking out to his garden to pick and eat fresh spinach, I asked about his favourite vegetables and what dietary ideas influenced his eating habits. "To eat from the garden, one must live in the garden," he replied. "My favourite vegetables are the ones I just pulled up from the ground. I have eaten a meal of my own vegetables and venison and it feels pretty good." Concerning diet, his ideas have changed. He feels he tends to carry extra weight when he eats a diet with grain it. When he was younger, he enjoyed this heavier feeling, but less so as he ages. He mostly eats a meat, vegetable and fruit diet now and also believes it is a good idea to occasionally feel hungry. He highlights how in the past, few people were fat, yet they ate a diet full of animal fats and not the vegetable oils of today. He has read and experimented with both the Eat Right For Your [blood] Type and the Paleo diets.

Bob aims to eat a totally local and self-reliant diet from his own landscape, yet he still must occasionally buy his fruit. He finds the emphasis on fitness centres an unnecessary practice for people truly living a country life, filled with such activities as hand-cutting one's own wood and growing one's own food. His 3,000 square feet of garden, with deer mesh suspended seven feet vertically and horizontally, is very effective in allowing him to fill his root cellar for a winter of eating with little dependence on fossil fuels. Bob is content to limit his wilderness travels to a late-fall canoe trip and winter camping trips. He continues to refine his gardening skills and improve his hunting skills. Ultimately he would like to find more of his neighbours interested in growing their own food so a country outlook - and the many skills associated with sustainability and a way of living that can help us address the unpredictable nature of climate change could be revived in the area. Perhaps we can all learn from Bob and seek kindred spirits with whom to create a fellowship of gardening canoeists.

Zabe MacEachren likes to drive north and stop in at Bob's log-cabin home for a chat and a cup of tea. In the summer, she will find Bob barefoot in the garden, a large straw hat on for sun protection and, usually, a hoe in hand.

Creating Experiential, Ecological "Earth Dumplings"

by Monika Kastelic

Out of all the food-related experiential activities that I have shared with students, creating seed balls remains at the top of my list. Applicable to a variety of ages, they result in the creation of low-tech but extremely powerful tools for ecological restoration. Seed balls, or "Earth Dumplings" (Fukuoka, 1978), are a method of propagation technology originally used by Aboriginal farmers, and more recently promoted by Japanese Natural Farming innovator Masanobu Fukuoka.

The activity can be framed to emphasize various teaching points such as soil composition, biodiversity, companion planting and sustainable land use. I've included a few sample ideas of lead-up activities. I encourage you to try out, or adapt, a seed ball-based activity with your students if you haven't already done so. From my experience, this versatile, non-contrived activity is a very compelling medium for cultivating ecological stewardship and empowering participants to realize their deep capacity to create change in the world.

Lead-up Activities

Especially with younger participants, I find it worthwhile to begin with a multi-sensory exploration of soil components to help build understanding of why they will be mixing compost and clay into the seed balls later on. Organize students into small groups and provide them with separate containers of sand, compost and moist clay (modelling type works fine). Invite them to touch, smell and explore the characteristics of each material using spoons, magnifiers, etc. Have them share thoughts on what each material might be, and where they might have encountered it before. Discuss the unique role that each material plays in soil composition (sand drainage; compost - nutrients, holds moisture; clay - keeps everything together, holds onto nutrients, slows drainage).

Invite students to create small balls using some material from each container. Compare the characteristics of different balls: Whose is falling apart? Whose is too gooey? Is anyone's "just right"? Prompt students to consider which type of material they might add more of or less of next time to create a ball with better structural integrity. Extend the conversation to include considerations such as: What would happen if there is too much/too little of each part in different soils? What are some threats to healthy soil in our community and around the world?

Other related discussion points:

- How is compost made (by humans and without human influence)?
- Native plant species vs. invasive species
- Ethical and sustainable collection of wild seeds
- Different plants are adapted for different kinds of soils
- Soil conservation and erosion prevention

Creating Seed Balls

There are many approaches to creating these wonderful little ecological projectiles. The materials described below represent an ideal situation, but the activity still works even if you have fewer seeds available, or use moist instead of dry compost and clay. Other resources that I have encountered suggest more ingredients and different ratios. But no matter how you adapt the materials, the goal remains the same: Create a protective, nutrient-rich womb of clay and compost that surrounds the seeds of non-invasive, native species.

Materials

- 1 part dry compost
- 1 part native plant seeds (best are ones you have collected with the group)
- 1 part dry/powdered clay
- Water
- Sand

Directions

Select the seeds to be used. Native wildflower/plant seeds work best, as this technique is more difficult with more finicky vegetable seeds (although Fukuoka's book describes his success using Earth Dumplings to scatter vegetable seeds). Remember that thick-skinned seeds will need to be scarified (scratched to speed germination), and some seeds need heat or cold to bring them out of dormancy.

- Mix one part seeds with one part dry compost.
- 2. Add one part dry clay and mix.
- Spray in water a little at a time and mix together, adding some sand as needed to help it stick. Add just enough water to hold everything together without crumbling.
- 4. Form the mixture into balls, 2–3 cm (1 inch) in diameter. Roll between the palms of the hands until smooth and round. It is important to roll the balls until the clay platelets align and become smooth (called polymerization), so that the ball will dry with structural integrity.
- 5. Set the balls aside to dry for at least 24 hours.

Once dried, the balls are ready to be spread over land that you want to rehabilitate with native species. Be creative here! Nothing beats the sight of a group of students pelting an abandoned urban field with the "seeds of change." One idea is to contact your local conservation authority and get permission to participate in the planting of a rehabilitated area, using the seed ball dispersal technique. Alternatively, students can go on a solo walk and place the seed ball in a location that speaks to them.

The beauty and efficiency of seed balls is that they do not require planting or artificial watering. Given that appropriate native species are used, the seeds will be able to germinate without human intervention. The dry clay protects the seed until enough rain falls to break through the mixture to allow the seeds to germinate, catalyzed by the nutritious compost within the ball.

Taking Responsibility for those "(Seed) Balls of Change"

Before the "scattering of seeds" takes place, it is a great idea to have a discussion about land management and stewardship. You roll many forces of nature into seed balls when you make them and they have tremendous regenerative powers. But used carelessly, seed balls can cause irreparable biological disruption by effectively introducing alien species into a habitat. Be careful of which seeds you choose and where you scatter them.

Seed balls are both a practical tool and a metaphor for ecological stewardship. The history associated with them fortifies the point that there are many cultures that have honoured biodiversity and the need to work with, rather than against, the rhythms of natural systems. That a ball of compost, clay and seeds is a technology that has survived for thousands of years and is now gaining great popularity with permaculture educators gives me great hope. I will never forget an eight-year-old camper of mine who felt that the seed ball she had created was so precious that she needed to make a decorated box to carry it to its "planting spot" 10 feet away.

May your future Earth Dumplings scatter far and wide!

References and Resources

Fukuoka, Masanobu. (1978). *The one-straw revolution: An introduction to natural farming*. Emmaus, PA: Rodale Press.

Monika Kastelic was this year's avid gardener/proud farmer in the Outdoor and Experiential Education program at Queen's University. She and Brin Jones (issue's artist) received a Johnny Biosphere grant through Queen's Faculty of Education and used it to enhance a south-facing window to promote food education among more teacher educators.

Ideas for a Seed in a Pot

by Zabe MacEachren

- Mound soil high enough so sun can reach in the sides to warm the seeds.
- Put a name tag on your pot so others know how to address your plant.
- Make friends with a caretaker so you can leave directions for watering your plant in your absence.
- Decorate your pot with pictures, poems and haikus to inspire your plant to grow.
- Make a fancy label to stick in your plant's pot so you won't forget what green species it is.
- Place a ruler in your pot so you can measure height or length as your plant grows.
- Read your plant a story about its home country and its many tourist destinations.
- Set out lyrics to inspire singing to your plant so it's treated to a snack of your expired carbon dioxide.



A Recipe for Growing Kids Who Love Their Veggies

by Breanne Card, Marla Dagnone and Zabe MacEachren

The following poem was inspired by a poem presented at the World Camping Congress in Quebec City in Fall 2008 about the outdoor activities all children need to grow up healthy. Use the ideas to spark your own creative-writing lesson to support outdoor activities.

Growing Gardeners

Set aside seeds to soak in water overnight

Add two scoopfuls of garden soil in one large garden plot

Sprinkle with compost and gently stir the layers until well blended

Add moss and fibre until desired lightness is achieved

Stir in some fun with playful hoe strokes

Pat the ground firmly until hands are comfortable in the soil and fingernails are dirty

Settle the soil by dancing barefoot a special flower power dance

Cool off the lettuce leaves in a cold-water bath

Grill the zucchini and red peppers until crispy and tender

Sizzle the asparagus and mix with some fresh green fiddlehead tunes

Let all sit in the sunshine as you play on a nearby swing

Broil potatoes and skin with a dollop of coconut oil

Sauté onions before laying out the tablecloth for the picnic

Marinate the days of play and work in warm sunshine

Poke the ground so the earthworms can come out to play

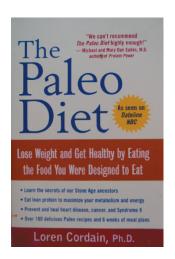
Slurp all with ketchup created from your own squished tomatoes

Put garden tools away as you fold hands and await the grace of the meal to be spoken

Bow heads and be thankful for all the treasures to be found in soil

Landmark Books for Food-related Education

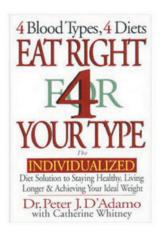
by Zabe MacEachren



The Paleo Diet: Lose Weight and Get Healthy by Eating the Food You Were Designed to Eat

by Loren Cordain, published by John Wiley and Sons, 2002 (ISBN 978-0-47-126755-3)

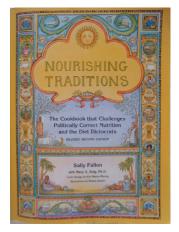
This book is based upon eating the types of foods that existed before the agricultural revolution. Cordain supports eating meat, vegetables, fruit and nuts, but few grains and little sugar. His ideas are substantiated and refer to elite athletes who have considerable improvement in their performance after a few months of following a paleo diet.



Eat Right for Your Type

by Peter D'Adamo, published by G.P. Putnam and Sons, 1997 (ISBN 978-0-39-914255-0)

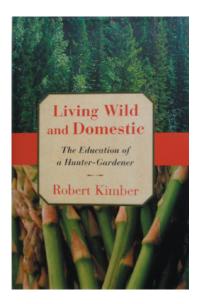
The premise of this book is that you have inherited a digestive tract that cannot be changed within a few generations. So if your ancestors ate mostly meat or mostly grains or mostly fruit, you may have a hard time switching to a strict vegan, vegetarian or carnivorous diet. How your ancestors ate is registered in your blood type, hence the title of the book.



Nourishing Traditions: The Cookbook that Challenges Politically Correct Nutrition and the Diet Dictocrats

by Sally Fallon, published by New Trends Publishing, 2nd rev. ed., 2003 (ISBN 978-0-96-708973-7)

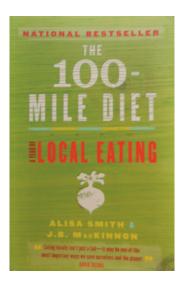
This book provides both recipes and the rationale for returning to the traditional practices of eating fermented food. Outlined is the intricate knowledge of preserving a wide assortment of nutrients in our food as we prepare broths and organ parts of animals rarely accessible in today's food market.



Living Wild and Domestic: The Education of a Hunter-Gardener

by Richard Kimber, published by The Lyons Press, 2002 (ISBN 978-1-58-574684-2)

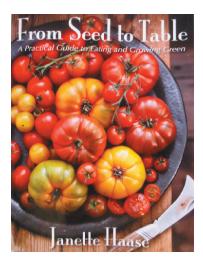
This book reads like a journal and outlines the ethics and quandaries of a man who is both an avid gardener and hunter. Kimber explores many questions concerning which practices lead to the best way to eat. The stories outlined in this book make for an enjoyable read that raises some stimulating questions concerning the values associated with different means of acquiring food.



The 100-Mile Diet: A Year of Local Eating

by Alisa Smith and J.B. Mackinnon, published by Vintage Canada, 2007 (ISBN 978-0-67-931483-7)

This book grew out of a very popular blog written by a couple that challenged themselves to eat all their food (salt and spices included) from within a 100 miles of their small apartment. The book is very interesting and makes us question to what extent we might also try to eat more locally.



From Seed to Table: A Practical Guide to Eating and Growing Green

by Janette Haase, published by Insomnia, 2009 (ISBN 978-1-89-717875-1)

This new book combines gardening, recipes and food-related environmental ideas. It outlines how best to grow and preserve your own local food so you can eat seasonally. It also provides some interesting information concerning the way food is acquired and the related impacts for the earth. The book is easy to read and provides delicious recipes. It is divided into monthly themes.

The Joy of Cooking: 75th Anniversary **Edition**

by Irma S. Rombauer, Marion Rombauer Becker and Ethan Becker, published by Scribner, 2006 (ISBN 978-0-74-324626-2)

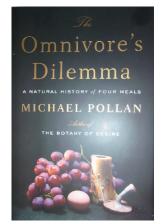
This classic book, first published 75 years ago, outlines how to cook many things beyond and including basics like meat and potato dishes of the fifties. Most homes should have a copy of this, or an earlier, edition. It is like an encyclopedia for young people who were never taught to cook.

Diet for a Small Planet (20th Anniversary Edition)

by Frances Moore Lappé, published by Ballantine Books, 1985 (ISBN 978-0-34-532120-6) This was one of the first books to outline how to eat a healthy, well-rounded vegetarian diet in order to reduce your impact on the earth. The amount of protein you should consume is based upon the amount of protein in one egg.

Living the Good Life: How to Live Sanely & Simply in a Troubled World

by Helen and Scott Nearing, published by Schocken Books, 1990 (ISBN 978-0-80-520300-4) Helen and Scott Nearing's books helped so many urban youth return to the land during the sixties (hippy) era. Their ideas also led many to consider becoming vegetarians for ethical reasons. The Nearings tried to base their livelihood on spending half of the day on tasks like gardening and wood-collecting and the other half of the day on developing the arts.



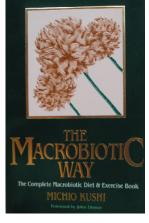
Omnivore's Dilemma: A Natural History of Four Meals

by Michael Pollan, published by Penguin Paperbacks, 2007 (ISBN 978-0-14-303858-0)



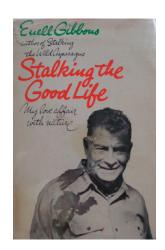
Root Cellaring: Natural Cold Storage of Fruits & Vegetables

by Mike and Nancy Bubel, published by Storey Publishing, 2nd rev. ed., 1990 (ISBN 978-0-88-266703-4)



The Macrobiotic Way: The Complete Macrobiotic Diet and Exercise Book

by Michio Kushi, published by Avery Publishing Group, 1987 (ISBN 978-0-89-529222-3)



Stalking the Good Life: My Love Affair With Nature

by Euell Gibbons, published by David McKay Co., 1971 (ISBN 978-0-67-950276-0)



May 2009 Press Release





STUDENTS TAKE EATING LOCALLY TO NEW HEIGHTS

Guelph, Ontario: Could you go without coffee or chocolate for 10 days? These are just two things that the Grade 12 Headwaters class led by Centennial teacher Michael Elrick will not be eating as they take on their local version of the 100-Mile Diet – The Headwaters 100-Mile Challenge.

Beginning June 2, for 10 days, the class will consume only food and beverages that are grown and produced locally, including all ingredients used in preparing meals. The challenge will run at school and at home for week one and will include a three-night canoe trip during the second week.

"It's our future; it's our responsibility to learn to live more sustainably. I've never been to Chile, so why have my apples been there?" asked student Sam Gawron.

The class has formed three groups: food sourcing and recipes, public relations and words publication. This last group will be in charge of developing a final document that will chronicle the entire challenge. With information such as recipes and local sources for food, it can be used by anyone who wants to implement their own 100-Mile Challenge.

"It's exciting to think that with our publication, our voices will be heard and may inspire others to take the same journey," said Kaliesha Boudreau.

Along with visiting local farms to source products, the students are growing their own food at their classroom site at Camp Edgewood in Eden Mills. Their garden includes radishes, spinach, potatoes, herbs and more, some of which will be ready to eat when the diet starts early in June.

"It's empowering to be involved in every step of our food system, from seeding to sourcing to serving," commented Emma Young.

The class is already hard at work researching their community outreach project and will launch the Headwaters 100-Mile Challenge on May 11 at the Guelph Youth Music Centre at 75 Cardigan Street at 10:00 a.m. An open invitation is extended to the public, and the class welcomes any assistance or product donations.

Teacher Michael Elrick said, "I like to tell my students that we are eating our way out of this environmental crisis with good-tasting, local food."

Students in the Upper Grand District School Board's Headwaters Program earn four high school credits while learning how to live sustainably on the planet.

For more information and to follow their journey: See the blog at: www.celp.info

Contact person: michael.elrick@ugdsb.on.ca 519-766-3519

The Council of Outdoor Educators of Ontario Conference 2009



Connections and Directions

Friday, September 25th to Sunday, September 27th, 2009 RKY Camp, Parham, ON

http://www.summercamp.on.ca/

Personal Information:		
First Name: Last No	ıme:	
Organization (If applicable):		
Address:		
City/Town: Province	e: Postal	Code:
Telephone: Busines	ss:	
E-mail:		
Emergency Contact Name & Number:		
Please identify any dietary needs or preferences:		
Please identify any other concerns (i.e., mobility etc):		eeds, allergies,
☐ Interested in Carpooling? (Also see the C	:OEO website. We will contact	you with more information.)
Membership: Registrants for the COEO 2009 conference Membership fees may be included with registration. Membership		
Registration Fees:		
Conference	Early Bird	Regular
Regular Member	\$180	\$200
Student/Retiree	\$130	\$150
1 Day Only	\$100	\$120

Payment: Cheque or Money Order payable to Council of Outdoor Educators of Ontario
Please send this form with enclosed fees to: Carmine Minutillo - Box 26, Parham, Ontario K0H 2K0
Re: COEO 2009 registration or see www.coeo.org

\$100

\$ 35

\$ 50

\$ 60

\$100

\$ 35

\$ 50

\$ 60

Registration: Room allocations and program sign-up sheets will be available at RKY Camp at registration.

COEO Membership (Organization)

COEO Membership (Regular)

COEO Membership (Family)

TOTAL

COEO Membership (Student/Retiree)

Free T-shirt!

T-shirt size for your free conference T-shirt:

I am size (Please circle one): XL (Youth) S M L XL (These are Men's Sizes)

I would like to order _____ additional T-shirts at \$15 each

Size (Men's)	#
X-Large (youth)	
Small	
Medium	
Large	
X-Large	



Sunday Kingston Tour

I plan to attend this tour

After the conference a tour will be provided to the following Kingston locations:

- Wolfe Island Ferry to Ryan OE Centre
- New Wind Farms on Wolfe Island
- St. Lawrence College Energy House
- Gold Eco School
- White Mountain Ice Cream

*The tour will end by 5p.m. in downtown Kingston



ubmission Guidelines_

Information for Authors and Artists

Purpose

Pathways furthers knowledge, enthusiasm and vision for outdoor experiential education in Ontario. Reflecting the interests of outdoor educators, classroom teachers, students and academics, the journal focuses on the practice of outdoor experiential education from elementary to post-secondary levels and from wilderness to urban settings. Pathways highlights the value of outdoor experiential education in educating for curriculum, character, wellbeing and the environment.

Submitting Material

The *Pathways* editorial board gladly considers a full range of materials related to outdoor experiential education. We welcome lesson outlines, drawings, articles, book reviews, poetry, fiction, student work and more. We will take your contribution in any form and will work with you to publish it. If you have an idea about a written submission, piece of artwork, or topic for a theme issue, please send an e-mail outlining your potential contribution to the Chair of the Editorial Board, Kathy Haras (kathy@adventureworks.org).

We prefer a natural writing style that is conversational, easy to read and to the point. It is important for you to use your style to tell your own story. There is no formula for being creative, having fun and sharing your ideas. In general, written submissions should fit the framework of one of *Pathways'* 20 established columns. Descriptions of these columns may be found at www.coeo.org by clicking on the publications tab.

Whenever possible, artwork should complement either specific articles or specific themes outlined in a particular journal issue. Please contact the Chair of the Editorial Board if you are interested in providing some or all of the artwork for an issue.

Formatting

Use 12 point, Times New Roman font with 1.25 inch (3.125 cm) margins all around. Text should be left justified and single spaced. Place a blank line between paragraphs but do not indent. Please use Canadian spelling and apply APA referencing style.

Include the title (in bold) and the names of all authors (in italics) at the beginning of the article. Close the article with a brief 1–2 sentence biography of each author (in italics).

Do not include any extraneous information such as page numbers, word counts, headers or footers, and running heads.

Pathways contains approximately 500 words per page. Article length should reflect full page multiples to avoid partially blank pages.

Submit articles to the Chair of the Editorial Board or issue Guest Editor, preferably as a Microsoft Word e-mail attachment.

Each piece of artwork should consist of a single black and white drawing (cross-hatching but no shading) on 8½ by 11 paper.

Submit artwork to the Chair of the Editorial Board or issue Guest Editor either as a digital file (jpg is preferred) or as a hard copy.

Submission Deadlines

Volume 1	Fall	September 15
Volume 2	Winter	December 15
Volume 3	Spring	February 15
Volume 4	Summer	April 15

Complimentary Copies

The lead author receives one copy of the issue in which the article appears and one copy for each co-author. Lead authors are responsible for distributing copies to their co-authors.



The Council of Outdoor Educators of Ontario

Membership Application/Renewal Form

Please visit our website at www.coeo.org/membership.htm for more detailed descriptions of the benefits of each membership category. (Please print and fully complete each line below.)

Nam	e (Mr./Mrs./Ms./Miss)	
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City/	Town	Province/State Postal/Zip Code Postal/Zip Code
Tele	phone Home ()	Business ()
E-ma	il	
		Type of Membership (Check one box)
	_	☐ Student/Retiree \$35.00 ☐ Family \$60.00 on to <i>Pathways</i> only) ☐ Organizational \$100.00
	United States order	please add \$4.00; International Orders please add \$12.00
Pathways Journal Format Request (Check one box)		
Please select the format in which you wish to receive your four <i>Pathways</i> Journals: ☐ I'd prefer to receive a PDF version through password access to the COEO Website ☐ I'd prefer to receive a printed copy through "snail mail" ☐ I'd prefer to receive both a digital and a printed version — an additional fee of \$5.00 is required for this option.		
COEO Membership is from September 1 to August 31 of the following year.		

Please send this form with a cheque or money order payable to:

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Every <i>Ontario member</i> of COEO will be assigned to a region of the province according to the county where (s)he lives.		
Central (CE)	Welland, Lincoln, Hamilton-Wentworth, Halton, Peel, York, Simcoe, Metro Toronto	
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