

THE ELMVALE STORY

0. SUMMARY

The Elmvale Water Festival (EWF) is a one-of-a-kind event to educate the general public about the value of our water resources and the need to protect them for future generations. The festival uses lectures, exhibits, films, educational displays, and children's activities to get the message across. Thousands of litres of pure, local spring water are supplied free of charge, in re-usable non-toxic water bottles. Music, entertainment, games, and food culminating with an evening dance entices community and area involvement. All lectures are filmed and broadcast on the internet through the website, making this a global event.

Our focus is to educate the general public about the environment using water: where it comes from, where it goes, and how it evolves. By celebrating and educating, we will reinforce the importance of this tremendous natural resource, and encourage its protection for future generations. The Elmvale Water Festival is hosted by the Elmvale Foundation (www.elmvale.org), a Canadian, federally registered charity for environmental education. "We protect what we value, we value what we understand".

1. MOTIVATION AND RATIONALE

a) "think globally"

Blue is becoming "the new green" around the world. The global water crisis has been well documented by many authorities: with world population increasing, and no new freshwater resources being created, per capita freshwater resources are declining.

An important compounding problem is global climate change: as the planet becomes warmer, there will certainly be profound impacts in the dry regions already suffering from water shortages or drought. In addition, there will also be impacts, many poorly understood, on the hydrologic cycle in the temperate zone. The melting of the polar ice caps certainly means that a large part of our reserves of (frozen) freshwater will be converted to saltwater. In addition to these physical constraints to water supply, water quality is under threat worldwide: pollution by potentially toxic heavy metals, organic contaminants such as herbicides and pesticides, radionuclides, and also excessive fertilization (eutrophication), salinization and acidification.

While global freshwater resources decline and pressures mount to access this life-giving fluid, bottled water consumption is increasing. However, at least in North America (which has excellent municipal water in most areas), much of it is bottled tap water which implies a lack of consumer understanding and awareness. The "disposable" generation values consumption and the convenience of bottled water because of their "on the move" lifestyle which is promoted by the marketing, advertising and soft drinks industries.

Unfortunately, little thought is given to the obvious list of environmental impacts of “packaged water”, including the disposal problems created by the plastics themselves, groundwater mining, and transportation with resultant atmospheric pollution and greenhouse gas emissions. Bottled water suppliers argue that their product is better than sugar laden colas - that have helped create a “clinically obese generation in North America.”

So, on the one hand, freshwater which is necessary for all forms of life on Earth is under increasing threat from many sides, but at the same time, it has become one more throw away consumer product for a generation completely out of touch with the natural world.

WATER FACTS

You already know that the surface of our planet is dominated by water, but did you know that 99.5 % is either salty or frozen, and only 0.5 % is freshwater?

Did you know that, because of extensive water withdrawals, mainly for agriculture, **some of the world's major rivers no longer reach the ocean?** With increasing development and population growth, demands for freshwater continue to grow. **The Secretary General of the UN recently asked for the freshwater crisis to be put at the top of the global agenda.** Worldwide today, **one in five people do not have access to clean drinking water.** According to the UN, by 2025, more than half of the nations of the world are expected to be facing shortages of freshwater.

In many regions of the U.S., **freshwater is being withdrawn five times faster than it can be replenished by rain and snow.** In recent years, droughts in the U.S. and France have caused nuclear power reactors to reduce electricity generation for weeks at a time, because of the shortage of water for cooling. **Global climate change will impact the supply of freshwater worldwide in ways that we do not understand and cannot predict.**

Water-rich Canada is not immune from these pressures. Eighty-five percent of Canadians live in the south that has only 10 % of the water. **One-quarter of Canadian municipalities have experienced water shortages during the past decade.** In western Canada, temperature increases of the past three decades have meant that **most Rocky Mountain glaciers have lost nearly a third of their mass,** and river flows in summer have declined by up to 85 %. Water is expected to become the limiting factor in developing the Athabasca tar sands, with 90% of the water withdrawn (to generate steam) ending up as wastewater in tailing ponds.

Even though Canada has some of the best municipal water supply systems in the world, nearly two billion litres of bottled water were consumed in Canada in 2005, yet the World Health Organization has found no data on the health benefits of bottled water ! **Drinking 2 litres of tap water in Toronto per day costs approximately 73 cents per year, but drinking the same amount of bottled water (at \$ 2.50 per litre) would cost more than \$ 1800 !** Two of the largest bottled water sellers in Canada, Coca Cola and Pepsi, use municipal water.

SOURCES OF WATER FACTS

CBC News in Depth, September 26, 2006; Globe and Mail, Report on Business, April 2008; Macleans Magazine, May 14th, 2007; Nature, March 20, 2008; New York Times, August 1, 2007; World Health Organization, Fact Sheet No. 256, October 2000

b) “act locally”

The Village of Elmvale, a peaceful farming community (pop. 1700) is located in Springwater Township, an area of abundant artesian flows, in Simcoe County, Ontario, Canada. Elmvale is only 90 minutes north of Toronto, the largest metropolitan region in Canada. Many Toronto residents pass through this area each summer, on their way to cottages on Georgian Bay, a part of Lake Huron famous for the most extensive freshwater beaches in the world. Many residents in this part of Ontario have become increasingly concerned about local changes in land use that affect the quality and quantity of local groundwater resources, in particular the landfill known as Site 41 being constructed by Simcoe County in neighbouring Tiny Township.

As a concerned scientist who wanted to contribute in a constructive and objective way to understanding the water resources of the area, my lab undertook repeated tests of water samples from many of the artesian flows in the area, entirely at our own expense, to determine the “natural background” values for a variety of parameters, but especially the trace metals. All of the measurements were undertaken at the University of Heidelberg in Germany, in a special “clean lab” designed and constructed for testing ice cores from the Polar Regions. The main finding was that the local groundwater, emanating from artesian flows, is comparable in many ways to the cleanest layers of ancient arctic ice.

Although some “experts” suggested that the water must be ancient, hence its purity, age dating of the water (also undertaken at the University of Heidelberg) showed that the water from many of these flows is very young ie less than 30 years old. Thus, this high quality “clean” water is in fact rainwater from the 1970's which has been purified, to a remarkable extent, simply by filtration through the soils of the groundwater recharge area, namely the sand and gravel hills flanking the area to the east. It was amazing really, to find out how little we knew about the water right under our feet.



Figure 1. The artesian flow on the Johnson farm property.

In contrast to the great news about the local spring water, testing of bottled waters from around the world, using the same lab methods, showed that all are

contaminated because of leaching from the containers, either by antimony (Sb) leaching from the PET plastic, or lead (Pb) from the glass. Bottled waters, therefore, are not as “clean” or “pristine” as one might think, simply because of the effects of packaging. To say it another way, the artesian flows of the Elmvale area are clean simply because they are “fresh”. If these waters were packaged, they too would become contaminated because of leaching from the containers.

These amazing water resources represent a cause for celebration, and an opportunity for environmental education - and this realisation led to the creation of the Elmvale Water Festival, and the Elmvale Foundation.

SPRING WATER IN SPRINGWATER TOWNSHIP: THE GOLD STANDARD FOR TRACE ELEMENTS IN DRINKING WATER ?

What do bottled waters in PET containers and arctic snow have in common? They are both contaminated with antimony (Sb), a potentially toxic heavy metal with no known physiological function. Studies at the University of Heidelberg, in Germany, using the most sensitive and sophisticated analytical methods, and employing “clean” lab methods and procedures, have made it possible for the first time to accurately determine Sb in ice cores from Devon Island in the Canadian Arctic which extend back in time more than 15,000 years. Analyses of the ancient ice samples provides a measure of the “background” inputs of Sb to the arctic, clearly showing that natural atmospheric Sb inputs to the arctic today are dwarfed by industrial emissions. The magnitude of the Sb enrichments in snow and ice from a remote region of the arctic indicates that Sb is truly a global contaminant.

Antimony trioxide is a suspected carcinogen, and is considered a priority pollutant by the U.S. Environmental Protection Agency (EPA), the European Union (EU), and the German Research Foundation (DFG). Although most of the antimony trioxide produced today is used as a flame retardant in textiles and plastics, it is also used as the catalyst in the manufacture of PET (polyethylene terephthalate). In fact, plastic made using PET typically contain a few hundred times more Sb than is usually found in the rocks and soils at the surface of the earth.

We measured Sb and many other trace metals in groundwater emanating from a number of artesian flows in Spring water and Tiny Townships, Simcoe County, Ontario. Antimony and some of the other elements had never before been measured in uncontaminated groundwaters, simply because the concentrations are well below the detection limits typically available in all but a handful of labs. Using the methods applied to ancient Arctic ice, Sb and all of the other metals of interest are easily measured, even in the cleanest water samples.

The groundwaters were found to contain on average only two parts per trillion of Sb. In contrast, bottled water in PET plastic (128 brands of water from twenty-eight countries) showed values typically a few hundred times greater. Adding the local groundwater to PET bottles quickly confirmed that the bottles were contaminating the waters because of leaching of Sb from the containers. The studies showed that the concentration of Sb in bottled water is independent of its natural abundance, but rather dependent on the duration of storage in the PET container. Similar testing showed that bottled waters in glass are contaminated with lead (Pb) leaching from the containers. Compared to all of the bottled waters tested for Sb and Pb, the groundwaters from the Elmvale area were the cleanest of all, simply because of the efficiency of filtration provided by the soils created by Mother Nature, and the fact that it has not been packaged !

1. Shotyk, W. The Remarkable Natural Filtration of Groundwater, Elmvale, Ontario: Cause for Celebration, Opportunity for Education. Canadian Water Treatment May/June, 2008, pp. 12-13.
2. Shotyk, W., Krachler, M., Chen, B. and Zheng, J. (2005) Natural abundance of Sb and Sc in pristine groundwater, Springwater Township, Ontario, Canada, and implications for tracing contamination from landfill leachates. *Journal of Environmental Monitoring* 7:1238-1244.

3. Shotyk, W., Krachler, M., and Chen, B. (2006) Contamination of Canadian and European bottled waters with antimony leaching from PET containers. *Journal of Environmental Monitoring* 8:288-292.
4. Shotyk, W., and Krachler, M. (2006) Contamination of bottled waters with antimony leaching from PET increases with storage. *Environmental Science and Technology* 41:1560-1563.
5. Shotyk, W., and Krachler, M. (2007) Lead in bottled waters: comparison with pristine groundwaters and contamination from glass. *Environmental Science and Technology* 41:3508-3513.
6. Krachler, M. and Shotyk, W. (2008) Trace and ultratrace metals in bottled waters: survey of sources worldwide and comparison with refillable metal bottles. *Science of the Total Environment* 407:1089-1096.

c) Statement of the problem

In essence, we came to the following realisations:

- 1) the basic geology, hydrology, physics, chemistry, and biology of local water resources was poorly understood, even by many experienced professionals
- 2) the quality of local water resources had been underestimated by authorities, and
- 3) local water resources were undervalued and unappreciated by too many members of the community

Question: how to give the water a voice?

It became clear that change was needed:

- to develop understanding, value, and appreciation of these waters, and
- to protect these waters for future generations

There was clearly an opportunity here for environmental education, using water as a tool to help everybody to develop a better understanding of the environment, namely the complex interactions taking place continuously between the atmosphere, pedosphere, biosphere, and hydrosphere of our planet.

Specifically, there is a clear need to:

- educate at all levels of society, and all ages, and
- develop solutions for improved water and environmental stewardship, now and into the future. In particular, to find ways to convert conflict into collaboration instead of confrontation, with the goal of achieving sustainable long-term results.

d) research findings

Speaking with local residents, many of whom are the direct descendants of the pioneers who settled this area in the mid-19th century, it became clear that individuals with deep roots and strong ties to the area were very much aware of the amazing quality and abundance of groundwaters in local artesian flows. In fact, these artesian springs are an important tradition in the area, and a vital part of its natural heritage. At the artesian flow just 1 km north of Elmvale, at the side of County Road 27, there are always cars stopping to fill up their jugs and carboys to bring spring water to cottages on

Georgian Bay. To the native Wendat (Huron) people, these springs were not only the source of their drinking water, but for all of the plants and animals they depended upon. Moreover, these springs were also thought to provide powers of healing, and represented spiritual cleansing.

John Kidd, Elmvale resident, businessman, and Elmvale Water Festival volunteer

The flows are important to the farmers of the area both as sources of water for livestock and human consumption. Wells were shallow, costly and undependable in the heat of summer when needed most so a flow on the property was a real bonus to the early settlers and even today. Orr Lake has several flows in the lake bottom and the hills around it and they are the source of the lake itself. I have tested numerous flows running into the lake and have never gotten a bad water test from them. Most of the 300 or so cottagers on the lake consume water from the flows. Orr Lake is the source of the Wye River and the mouth of the Wye has a history going back to the establishment of Saint Marie among the Hurons in 1639, the first European settlement in Ontario. It provided a defensible transportation route and has provided fresh water for human consumption for all that time. One of the earliest Coca-Cola bottling plants in Canada was located in Penetanguishene because of the abundance and the purity of the water in the area. As a kid, we used to ride our bikes for miles in the surrounding area and always knew where we could get a drink of fresh, spring water from a flow (we didn't even have bottle carriers on the bikes back then). Many of the hundreds of cottagers in this area get their drinking water from the flow north of town. On a Friday night in the summer there is a traffic jam at the flow with people filling containers. I took the abundance of potable water for granted and now having lived across Canada and seeing the shortage of it in some places, I realize just how fortunate we are.

We quickly learned that there was no festival anywhere in Ontario “celebrating water”, and that there were no competing events taking place in Elmvale in the summer. There is ample space in Elmvale for a festival, including a community hall, public library, but more importantly the fairgrounds, with curling rink and hockey arena. Elmvale has a tradition of successful annual events, including the Fall Fair every autumn (October), hosted by the Flos Agricultural Society which has been going strong for more than 150 yrs, and the Elmvale Maple Syrup Festival each spring (April) which recently celebrated its 40th anniversary; each of these events attracts thousands each year. Celebrating the annual harvest is a tradition common to so many societies, and celebrating the maple syrup harvest is a natural extension of this, in addition to a way to shake off the winter blues. But how to celebrate water in a society which takes the abundance of water for granted ? Summer seemed like the obvious season to celebrate water, and there was a need to combine the concept of “high tech” findings with “high touch” gatherings, to educate and share ideas in a festival or celebratory fashion. How to deliver the science in a way that is both interesting and fun ?

2. COMPONENTS

The **Elmvale Foundation**, a registered charity for environmental education, was federally incorporated in 2007.

Our motto is “We protect what we value, we value what we understand”.

Our Mission Statement:

The Elmvale Foundation is a non-profit, science based organization dedicated to educating people of all ages about the environment. Water is used as the

*principle tool, and the Foundation will achieve its goals by hosting community events, primarily the annual **World Water Day Speaker Series** as well as the **Elmvale Water Festival**, but also through participation in other community festivals, and supporting environmental research at all levels. Information provided by the Foundation is made available globally via the website.*

Thanks to the support of two prominent local politicians, Bruce Stanton MP and Garfield Dunlop, MPP, the Elmvale Foundation achieved charitable status within months of incorporation, allowing us to issue tax receipts for cash donations, as well as donations in kind, already in our first year.

The **Board of Directors** of the Elmvale Foundation was initially assembled from an inner circle of close friends and family members having varying expertise and backgrounds, but all sharing an interest in environmental stewardship, education, and an interest in the success of the Foundation. At the time of incorporation (2007), there were four Board members, namely Gary Rasiuk, investment advisor; Anthony Tolomizenko, certified chartered accountant; Robert Haas, lawyer; Fred Buck, retired teacher, in addition to William Shotyk, the Founder and President of the Foundation

In 2008, the Board voted unanimously to add two additional members, namely Brian O'Neill, software developer and Chris Fraser, media specialist.

CHRIS FRASER, ELMVALE FOUNDATION BOARD MEMBER SINCE 2008

Why Elmvale? Site 41 was the centre of a media storm around putting a garbage dump on top of an artesian flow. The logic of this decision did not add up and so the issue captured my attention right from the initial media broadcast.

Through serendipity, I connected with Dr. William Shotyk who believed that it was wrong to put garbage on the rich, clean resources under Site 41. More importantly, Bill believes that Elmvale's water is the "gold standard" of purity – even in comparison to ice core samples drawn from the high Arctic.

Bill's research showed that Elmvale was home to some of the freshest water in the world – a resource well worth saving. Bill's approach was not NIMBY based, but rather to create a non-political forum for people to celebrate purity by learning how best to steward the water in Springwater Township (after all, big ideas can come from tiny places).

In addition, Bill's research at the University of Heidelberg showed how convenience in carrying water in plastic bottles was being compromised by contamination from PET plastic. Clearly, "the network" was now broadcasting a different media story – that the future was not in "plastics."

I liked "the Elmvale story" for several reasons and joined in.

Globally, Canadians have always been known as hewers of wood and drawers of water. My family, the Frasers, were very successful as "hewers of wood" in New Brunswick. Water, was my opportunity.

As a Canadian, I need water to live. And like many people I've come to realize that I cannot take it for granted that we will always have 25% of the world's fresh water in the Great Lakes, to say nothing of the fact that 50% of my body is made of water.

So, water is an issue of today, something that we have to value, cherish, and steward to make sure that we are not borrowing from the next generation and setting them on a course of starvation due to lack of water.

So, Bill's vision of a yearly festival, "the thinkers conference on water", that brought together the science and educational aspects of water in a fun environment was of great interest. "Celebrate water" as a brand appeared in my mind as necessary and as a verb that people could easily associate with.

After all, who in "the world of water (WOW) " is looking after it? Governments? Industry? The United Nations? Cities? Small towns? Or a determined group of researchers and educators in Springwater Township, under the Elmvale "celebrate water" banner.

And that's why I joined the Foundation, and have really enjoyed the experience in "not only carrying on the tradition of drawer of water, but drawer of attention to better ways to steward this resource to ensure that it can be enjoyed in Canada for generations to come."

BRIAN O'NEILL, ELMVALE FOUNDATION BOARD MEMBER SINCE 2008

I was first introduced to the Elmvale Foundation and the Water Festival by Bill Shotyk at a family gathering in the fall/winter of 2006. I was drawn to the organization for a number of reasons. The most important driver for me was the organizations mission and key messages. The organization very quickly sold me on the importance of protecting the quality of our regional water resources and "drinking local" using safe, re-usable bottles. I have learned that the issues of water quality and sustainability are not regional but global in scope and need attention urgently.

The second critical component that prompted me to participate is the passion of the key team members. The organization's drive to share knowledge and experience in the areas of water quality and water preservation was a significant factor in my decision to volunteer. The energy and enthusiasm of the presenters and attendees at the educational events organized by the Foundation was the third key motivator for me. The event coordinators have been very successful in attracting world class experts in the areas of water protection, quality and sustainability. The event attendees rave about the quality and quantity of information provided.

The third factor was more professional in nature, that of making a small, regional not-for-profit organization, a global educational institution on a shoe-string budget. As an executive in the information technology sector, I saw the opportunity to use the resources freely available on the internet to share the message of Elmvale with a global audience.

Finally, I see my participation in this important cause as an opportunity to give back to the community and to share the important lessons of responsibility and volunteerism with my sons.

The need for expert advice on a broad range of scientific issues led to the creation of the **Elmvale Foundation Science Advisory Board** which is currently made up of the following members: Ray Clement (Ph.D., Waterloo), Ontario Ministry of the Environment, Canada; Michael E. Goodsite (Ph.D., Copenhagen), National Environmental Research Institute, Denmark; Michael Krachler (Ph.D., Graz), University of Heidelberg, Germany; Ron Martin (Ph.D., Antigonish), University of Western Ontario, Canada; Teodoro M. Miano (Ph.D., Bari), University of Bari, Italy; Stephen A. Norton (Ph.D., Harvard), University of Maine, USA; Jerome O. Nriagu (Ph.D., Toronto), University of Michigan, USA; Peter M. Outridge, (Ph.D., Toronto), Geological Survey of Canada, Ottawa; Michael A. Powell (Ph.D., Western Ontario), M. Powell International Consultants, London, Canada.

Dr. Ray Clement: Member of Elmvale Foundation Science Advisory Board since inception

I had known Professor Bill Shotytk for several years when he invited me to become a member of the Elmvale Science Advisory Board, and was delighted to accept for a number of reasons. First, I know Bill to be an exceptional scientist who is also a true environmentalist – I knew that any endeavor of his would be worthwhile, and that he was going to surround himself with other talented and committed people. Second, there is a pressing need for the public to be informed of the facts surrounding all environmental issues – especially relating to the use and preservation of our freshwater supplies – so they may make informed decisions based on good science. Finally, it was an honor to be part of a new initiative that may grow to be an important instrument for public education of important environmental issues.

I was asked to serve on the Scientific Advisory Board for my many years' experience as a practicing environmental analytical chemist, not because I happen to work for a government agency – the Ontario Ministry of the Environment (MOE). My role is to occasionally comment on the scientific merit of water quality data, to recommend good scientific speakers for various Foundation events, and to suggest new education initiatives and help organize them on occasion. Business conducted by the Foundation must continue to be related to public awareness and education concerning water issues for me to continue my involvement. Fortunately there is a good understanding in government of the importance of public education in general, and specifically of the need to base environmental decisions on good science. I also have to be careful to offer scientific opinions only in the areas of my expertise. Unfortunately, many members of the public are likely to give more weight to the opinions of someone who happens to have an advanced degree, even if the degree was from an area of study not related to the issue for which the "opinion" was given.

In addition to the importance of environmental education for the public, I have always been concerned about the lack of understanding about science education in general. Too many people are swayed by marketing claims by commercial ventures, for example, that claim to be based on good science but in fact are just vehicles for extracting money from consumers. Just consider the hundreds of weight-loss programs available. Some are very good programs and work if followed – others are scams. How can you tell the difference? By becoming an educated consumer and asking the right questions. And understanding on a basic level how quality science is conducted. Environmental issues are subject to the same false claims and misinformation as any other product in our society. I hope the Elmvale Foundation will grow to be an important vehicle to educate the public about water issues, so people can make informed decisions based on sound science of this essential and precious resource.

Dr. Michael Evan Goodsite: Member of Elmvale Foundation Science Advisory Board since inception

I have known Bill for a decade, since the time he was my M.Sc. supervisor. I believe in his ideas and his science. So, when he writes or calls, I am already interested. When I heard Bill's idea, I thought: "Wow! The idea is so compelling, and straightforward, that it must be already accomplished somewhere." My curiosity drove me to read about the situation at the time Bill started the Foundation. The fact of the matter is that the Foundation is unique and necessary. It was incredible but not surprising, given Bill's global scientific outlook and approach, that a grass roots effort was envisioned as an international project. It was especially nice to see that local efforts could be used to bring focus on an issue of international importance, a form of environmental "glocalization". I was therefore delighted when Bill asked if I would like to be a part of the Elmvale Foundations Board of Advisors.

As a member of the Board of Advisors, I have been asked to contribute to issues where I have scientific or technical expertise, and I have been further able to draw upon my network to properly answer these types of requests. Sometimes I am asked to review some non-technical issues as an "extra set of eyes". When given the opportunity I advance the Foundation, as I believe in its vision and leadership. I have not had to attend any regular meetings, but I am regularly updated on the Foundations accomplishments. I do not receive any compensation other than the satisfaction that I am helping a good cause. Bill asks only when he needs advice, so we do not meet just to do so. The advisory panel has never been assembled

with all of us together, but I think Bill will be the first to put us all in one room if there is an idea where he feels that we could all best contribute to in plenum.

I have also served as an advisor to a firm that had specific strategic goals and expectations for the advisors. This type of formalization was not needed for me personally in this case since I am such a supporter of the Foundation that I am not worried about over committing to it in my spare time and I know that Bill would respect if I told him, that I unfortunately did not have time to assist. However, I believe there are positives in formalising the advisor relationship and strategy. Ultimately the decision to do so is up to the advisor and the advisee. I would be comfortable either way with the Elmvale Foundation. I have yet to have the opportunity to attend one of the festivals, but I have visited Elmvale, and this has helped me understand the background and efforts behind the firm accomplishing its goals. It is difficult for me to explain how, but somehow, in being involved in the appropriate communication and being asked questions which I feel I can contribute to, I feel like I am a part of the team and just as valued by the Foundation management as any of the other team members. I suppose that if I did not feel this way about the foundation and my professional relationship with it, that I would simply defer my advisor role. As it is, I look forward to continuing to contribute with advice, as long as it is needed and welcome.

The “elmvale concept” needed to be developed using creative advertising and marketing expertise. With this in mind, we hired Errol Saldanha, a leading green designer who created a complete branding package, including logos for the Elmvale Foundation and for the Elmvale Water Festival, as well as the design of our web site (www.elmvale.org), t-shirts, and labelling for our reusable water bottles. The intention is that the brand will also become a “verb” – celebrate water - inclusive for all to share and benefit from. For a start-up organisation such as ours, Errol provided invaluable advice regarding not only the development of our brand, but also how best to maintain it in an organisation made up exclusively of volunteers.

THE ELMVALE BRAND

The name “Elmvale” is derived from the elm tree which once dominated the forests of the region. The elm tree is both a symbol of strength (one of the most highly valued native hardwoods), but also vulnerability (most of the trees of northeastern North America have been lost due to the introduction of the Dutch Elm Disease).

The logo of the Elmvale Foundation symbolizes elm leaves and water flow. It is a symmetrical design which reflects the balance of nature.



celebrate water

elmvale

The logo of the Elmvale Water Festival is an upside down umbrella; this is a twist on function: welcoming water. The logo also symbolizes the artesian flows of the area. The spout with water droplet reminds us of our dependence on this vital fluid. The logo also encapsulates the hydrological (water) cycle which is continuous.

Michael Powell was appointed Executive Director of the Elmvale Water Festival (EWF). As is true of all Elmvale positions, it is voluntary, but our goal is to go from a virtual group of committed and passionate volunteers to an organization with full and part-time staff. The EWF is staffed by approximately 20 other volunteers, and 30 student volunteers, all exhibiting admirable motivation and remarkable dedication. The approach is small town: yesteryear, it was building a barn. Today that spirit is

still strong with people interested in getting involved with a program that helps preserve and protect what is special about the area, namely to keep the “spring” in Springwater” !



Figure 2. Dr. Michael Powell, Executive Director of the Elmvale Water Festival.
Volunteers

A large number of our student volunteers come to us from the Elmvale and District High School. An annual visit and promotional presentation in March helps to rally the troops and allows us to issue our call for volunteers. When the Elmvale Foundation began in 2007, a visit to the local high school was greeted by students drinking packaged water sold by a cola company, namely bottled tap water from Toronto in PET bottles. Today, thanks to the encouragement of Taudie McLeaming, the social science teacher, and with the support of the Principal Randy Bauer, many students now fill up their reusable water bottles with local water from a cooler. While the students have learned to reduce their environmental footprint by using reusable water bottles, they are also saving money.

A large number of student volunteers come to us from the Environmental Technology program of Georgian College in Barrie. Again, an annual visit and promotional presentation in March helps to rally the troops and allows us to issue our call for volunteers.



Figure 3. Elmvale Water Festival 2008 volunteers.

Partners

Two nature protection organisations are already well established in the area, namely the Nottawasaga Valley Conservation Authority (NVCA), and the Severn Sound Environmental Association (SSEA). Both of these organisations agreed to partner with the Elmvale Foundation, providing contacts, ideas, and suggestions, but also help us to get the word out about our event.

Children's Water Festivals are growing in popularity in Ontario, with hands-on educational activities for kids. All of the materials for these events are provided by the Children's Water Education Council which has also come on board to partner with the Elmvale Foundation, to help create a sustainable Elmvale Water Festival.

ELMVALE WATER FESTIVAL

The EWF is a not only celebration of water, but also an educational experience. Leading authorities on topics related to water and environment are invited to give presentations to the general public, and with these being open for discussion afterwards, it is a wonderful opportunity for the public to meet in person with the experts and to ask questions. All presentations are filmed on video and broadcast worldwide using the internet, making this a truly global educational event. In the first 10 days of 2009, for example, we had more than 90 video downloads, from as far away as Australia, so our speakers are proving to be very popular. There are displays and booths from conservation, environment, and other agencies, and hands-on activities for children at the children's water education centre.

But it is not just about learning, it is a celebration, with music, food, and an evening dance. It is the first event in human history where one can drink for free all day: a truck with 13,500 litres of cold, pure spring water provides all of the necessary refreshment. All in attendance are given a free, non-toxic, dishwasher safe, reusable water bottle (Enviroclear, made of polypropylene by Container Corp). This is also a green event: electricity for the day is provided by Bullfrog Power, generated by solar and wind energy. Local food is served on biodegradable plates, with biodegradable cutlery.

The Elmvale Water Festival: a refreshing day of learning and "fun with water."

ELMVALE WATER FESTIVAL TESTIMONIALS

2007

- presentations were very, very interesting and well presented
- loved the water bottle and the t-shirts looked great
- I liked the concept and having scholarly people speak in Elmvale.
- I liked the speakers and kids activities and cookies
- T-shirts looked great, well-organized, what a great idea. I hope it happens again.
- Children's water education centre and outdoor activities looked like lots of good work!
- I liked the children's water education for the grandchildren and me!!
- Good job! Well done!

2008

- "Thank you for doing this! Keep it up"
- "Awareness of water issues was awesome – I am now more informed and I get to take home with me a bit of Elmvale with me. Keep up the good work"
- "What a great importance this festival is for this area thanks for starting it thank you again for having the foresight to organize this"

3. CHALLENGES

a) ELMVALE FOUNDATION

The Foundation has to be managed in a virtual way because the founder is in Heidelberg, Germany during most of the year, with the board members either in Toronto or London (Ontario). With internet and email, phone and fax, this is not an insurmountable challenge, but it certainly has many practical implications for running the organisation. The annual meeting of the Board of Directors is the

only time that the board members get together as a group, but there are smaller meetings between board members at various times during the year.

b) ELMVALE WATER FESTIVAL

Geography is certainly a consideration, with Elmvale alone (population 1700) not sufficient to provide the size of audience needed to make the event sustainable. There are several small cities within easy driving distance, namely Barrie, Midland, and Orillia, and advertising in these area is essential for our event. Elmvale is only 110 km from Toronto, with excellent highways and roads between, but how does a small town attract Big City interest ? Toronto has more than 2.5 million residents, and the Greater Toronto Area (GTA) is home to 8 million residents (approximately one-quarter of all Canadians). On beautiful, hot summer days, however, we are competing for attention with the most beautiful freshwater beaches in the world. How to convince visitors to the area to spend part of their day at the Festival, either on their way to or from the beach ?

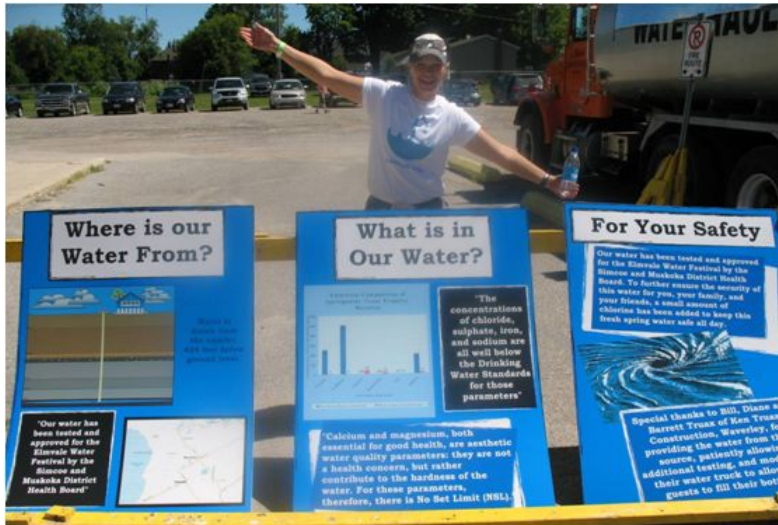


Figure 4. Alesha Caldwell with the posters she created, explaining where our spring water comes from, and what it consists of.



Figure 5. Bill Shotyk, Ray Clement, and Tony Clarke raising their reusable water bottles at the water truck, EWF 2007.

Advertising is a challenge because of the expenses involved: champagne production is difficult on a beer budget. Part of the challenge of a new event is to build credibility and that takes time.

Promotion - yes, the medium is the message, but getting the message out via local community media to potential attendees is difficult. In addition, a media transformation is underway, from conventional media to Internet based "social media." Communication is one-to-one "locally" with the goal of developing better ways to communicate "one to many."

Currently the EWF is promoted in local print media, but also radio, TV and of course the internet. In addition, the EWF is promoted directly in local schools and organisations (conservation authorities and conservation areas, but also churches and other community groups).

Communication is also a challenge, and despite the availability of the internet everywhere, it only works when folks reply to their emails and in an organisation made up entirely of volunteers, there can sometimes be delays in receiving replies :)

Finance: like all non-profit organisations, fund-raising is an ongoing challenge. Unlike non-profits such as hospitals or health-related societies and organisations, our "cause" may be perceived to be less acute and therefore less compelling, yet at the end of the day, our cause is the health of the entire planet.

To date, the Elmvale Water Festival has been supported mainly by grant applications from other Foundations and sponsorship from the private sector. In addition, there have been considerable in-kind donations (e.g. the water truck full of spring water, and the reusable water bottles), as well as donations to the silent auction table of quality items related to water theme. Sales of the Elmvale Water Festival t-shirt (NAFTA qualified t-shirts printed using environmentally friendly inks) as well as robust, durable reusable water bottles (e.g. the world-famous SIGG), have also helped to offset costs, in addition to admission fees at the gate, food sales, and admissions to the evening dance. Locally driven fund raising was very helpful. Key sponsors helped out tremendously. And it helped that so many "water issues" were in the media at the time that we launched Elmvale and there was very good response to our sponsor pitches.

To make it easier to support the Elmvale Foundation, donations can now be made directly on our web site (www.elmvale.org) via the internet using Pay Pal.

Our success to date is mainly the result of our small army of volunteers. Festival organizers and their network of friends and family, and their networks of schools and churches, have helped us to find and maintain dedicated volunteers devoted to the environment. All volunteers who help at the EWF receive not only food and water all day, but also an event t-shirt and Elmvale Water Festival SIGG bottle.

Marketing: how to get more event and Web site visitors ? With the educational aspects having taken root, to help draw crowds we intend to grow all of the fun components of the festival, namely music, games, and food. Volunteers with experience in running music festivals have since come forward and volunteered to help with this aspect of the EWF. Efforts are underway to add culinary demonstrations and to provide meals using locally grown organic foods, as well as on-site sales of local organic produce and a showcase of local chefs. Efforts will be made to spread the word more widely in Elmvale and adjoining communities and create a "look forward to" buzz around the event, with each year better than the previous one.

Sustainability: to make our event sustainable, it needs to become part of a year long series of activities, including fund-raising events, culminating in the Elmvale Water Festival. To extend the reach of our educational objectives and to promote the event, we have launched the World of Water (WOW) Speaker Series. Our inaugural event, on World Water Day 2009 (March 22), was highlighted by a presentation by Prof. Robert de Lot of the University of Waterloo, in a "town hall" format, at the Community Centre, in Elmvale. World Water Day is a great opportunity to get people out after a long winter, and to get them thinking about water and the environment, and looking forward to the next

Elmvale Water Festival. To extend the town hall style meeting to the younger crowd, there were hands-on learning activities for children, provided by staff of the Wye Marsh, a nature protection and interpretative centre downstream from Elmvale.

Government support: There has been strong response from key elected representatives to back the festival verbally and to attend, but they have been unable to easily contribute resources to a “new concept” event – especially one based on water and “edutainment” versus existing major entertainment events.

Internet visibility: the Elmvale web site (www.elmvale.org) is a broadcast platform with eye-opening, non-political information about water, but art and music still need to be built into the site. Sponsorship opportunities will be created to help pay for the creation and management of the dynamic content-management system.

Technology at the Elmvale Foundation

Current State

The Technology utilized by the Foundation can be broken into three Key areas: Desktop Productivity and Communication, Web Site and Multi-Media Delivery.

Desktop Productivity and Communication

An organization that is volunteer driven will result in an environment with no standards and no way to enforce them. Each user will have different Software versions, Document types, Email readers, Web browsers. Expect to spend some time getting the team connected and properly communicating.

Treat the new organizations as a business. Write a comprehensive technology strategy document on Day One. Address all major areas of technology as a business would such as:

- PC/Productivity Software and communication standards
- Email and internet connectivity
- Web Presence
- Printing/Desktop Publishing/Design
- Other applications

Web Site

The Website for the Foundation and the associated events has been an evolutionary process:

Version 1 – A single page as a placeholder for the web address as well as providing information on the first Festival in 2007.

Version 2 – A multi-page site with video and picture content for the 2007 event as well as marketing material for the 2008 event

Version 3 – The site was split into several pages. The site was re-skinned to properly present the branding and image that has been created for the foundation and the events that it supports. Applied multiple years of event content and marketing content

Version 4 – Getting ready for Winter 2009. See Technology Futures for more information.

Multi-Media Delivery

The single most interesting technical challenge for the technology group supporting the Foundation was to define the approach for delivering video and audio content to an undetermined audience size at a low cost.

Events supported by the foundation were generating many presentations captured in audio and video: most were in excess of an hour in length and were many hundreds of megabytes in size. The Foundation could not risk the bandwidth costs that could be incurred if the one of the videos were to “go viral” and generate thousands or millions of downloads.

The team chose Google Video as a hosting service for the video for the following reasons:

- the Foundation retains ownership for the material,
- the Foundation controls a users level of access to the material,
- there are no video length restrictions on the system.
- the foundation had no liability or financial risk if the videos became popular.

There are however implications when a service is chosen that is free or in beta and that is that the service can be discontinued with little or no notice. As of March 31, 2009, Google Video is no longer accepting contributions.

Technology Futures

The Foundation, with the support of their technology providers will be initiating a number of initiatives over the next 12 months. These initiatives are seen as necessary for the long term growth and sustainability of the organization.

Content Management – Move the website to a platform where content can be managed more easily with functionality for multiple contributors and editors of dynamic content.

Web 2.0 Community – Along with content management, the next release of the web presence will include more interactive features such as Volunteer and community Forums, Blogging capability for subject matter experts and key participants. The Foundation is also considering the use of Twitter as a communication to the internal group, the event coordinators, volunteers and the extended community.

CRM (Contributor Relationship Management) – One key challenge within the organization has been the coordination of communication with funding bodies and prospective donors/sponsors. A 2010 initiative is to implement a comprehensive fundraising/contributor relationship management system for tracking and reporting on donor relations.

New Media Delivery Strategy – In the fall of 2009, the Foundation will be re-evaluating the current streaming strategy with the closure of Google Video. A new provider of Streaming services will be identified and a new web traffic strategy will be initiated. As well, in the summer of 2009, all presentations from the EF events will be available for download from iTunes in both audio and video formats.

Our goal is to make Elmvale the hub of inspiration for research, education and ideas about water. If we understand water, then we understand the environment around us. And learning is not restricted to those in attendance, but rather everybody associated with the event from our volunteers to our entertainers, as well as our donors, suppliers and sponsors, and of course visitors to our website from around the world.

THE ELMVALE FOUNDATION ALUMNI

Videos of all of these presentations can be downloaded for free simply by visiting www.elmvale.org

Maude Barlow (EWF 2008) is the National Chairperson of The Council of Canadians, Canada's largest public advocacy organization, and the co-founder of the Blue Planet Project, working internationally for the right to water. She serves on the boards of the International Forum on Globalization and Food and Water Watch, as well as being a Councilor with the Hamburg-based World Future Council. Maude is the recipient of six honorary doctorates, the 2005/2006 Lannan Cultural Freedom Fellowship Award, and the 2005 Right Livelihood Award (known as the "Alternative Nobel") for her global water justice work. She is also the best-selling author or co-author of sixteen books, including "Blue Gold: The Fight to Stop Corporate Theft of the World's Water" and the recently released "Blue Covenant: The Global Water Crisis and the Coming Battle for the Right to Water".

Tony Clarke (EWF 2007) is the founder and executive director of the Polaris Institute. In 2005, he was co-recipient of the Right Livelihood Award for his work on international water and trade issues. He played an active role at the World Water Forum in Kyoto in 2003, led in the formation of the People's World Water Movement launched in New Delhi in 2004, and assisted the movement to resist the privatization of water at the World Water Forum in Mexico City in March, 2007. He has authored and co-authored 9 books, including *Blue Gold: The Corporate Theft of the World's Water*, which has been published in 40 countries, and *Inside the Bottle: An Expose of the Bottled Water Industry*.

Ray Clement (EWF 2007) acted as supervisor of the Dioxin Laboratory of the Ontario Ministry of Environment, eventually attaining the position of Senior Research Scientist. He has published over 160 papers and technical reports concerning the analysis, sources, and fate of toxic organics in the environment, has published five books and received numerous awards.

Mary Jane Conboy (EWF 2008) is Executive Director of the Well Wise Centre. She was a member of an expert panel on drinking water wells and holds the Chair of the Environment Committee for the Association of Professional Geoscientists and is on the Ontario Drinking Water Advisory council. Mary Jane has co-authored "Well Wise: A comprehensive consumer's guide for private water wells" and "Aqua's Water Well Adventures."

Robert J. (Bob) Dell (EWF 2008) is the founder and presently chairman of Dell Tech Laboratories Ltd., a chemical consulting firm in London, Ontario. Since 2001, in semi-retirement, Bob has focused much of his time and energy as a volunteer in helping find ways to obtain clean drinking water for the children of sub-Saharan Africa. He is currently the president of the water SCHOOL (www.thewaterschool.org), a non profit organization based in Alberta and focusing on water purification techniques for developing countries.

Rob de Loë (World Water Day 2009) is the University Research Chair in Water Policy and Governance at the University of Waterloo, and Director of the multi-university Water Policy and Group. Previously he held the Canada Research Chair in Water Management at the University of Guelph.

Peter Dillon (EWF 2007) worked for over twenty years at the Ontario Ministry of the Environment where he led the aquatic research programme. He established the world-famous Dorset Research Centre, where much of the research was carried out that led to sulphur emission controls and acid rain reductions in Canada. He is currently Professor at Trent University, and Director of the Worsfold Water Quality Centre. He is a Fellow of the Royal Society of Canada and has received numerous awards.

Lynn Dollin (EWF 2008) is the Chair of the local Source Protection Committee, and a Councillor in the Town of Innisfil. Lynn has served as a Board Member and a member of the Administrative Committee of the Lake Simcoe Region Conservation Authority, as well as a Board Member and member of the executive committee of the Nottawasaga Valley Conservation Authority where she also chaired the planning committee.

Ron Martin (EWF 2007) is Professor of Chemistry at the University of Western Ontario. Ron is the recipient of many awards, including the OCUFA Teaching Award and the Edward G. Pleva Award for Excellence in Teaching.

Colin Perkel (EWF 2007) has been senior correspondent for The Canadian Press (CP) for more than 15 years and is CP branch president of the Canadian Media Guild. He extensively covered the Walkerton Water crisis from the first revelations through to completion of the official inquiry. He is the author of the critically acclaimed book on the tragedy, 'Well of Lies,' which chronicles the events that led up to and followed what has been described as one of the country's worst public-health disasters.



Figure 6. Maude Barlow, keynote speaker at the 2008 Elmvale Water Festival.

4. KEY LESSONS

Motivate: at our events there has to be “cannot miss” type content and presenters. The goal is to present the science of water in a way that it is completely understandable by all (ages) who attend.

Plan: run sheet of the Festival to be finely tuned so that people can stay for the day, or check out certain presentations. If they miss the presentations, pull people back to Elmvale via the www.elmvale.org web site.

Train: training volunteers to be excited about the event and helpful in connecting people to all of “what is going on at the event.”

Grow and evolve: allow the Elmvale Festival to become “the thinkers conference on water” and further develop community recognition and acceptance along the way through the WOW speaker series during the year.

Recognize: it is long road ahead and we are beginning from square one. In a down economy, finding the financial resources to sustain and enhance each year’s programming is key. And we have to recognise the limitations of our capacity to take on additional opportunities because we are completely volunteer based – and with any volunteer organization – some volunteers do a lot more than the others. There is an obvious need for a full-time Elmvale Water Festival Executive Director.

Timetable: Rome was not built in a day, neither was Elmvale. But the journey of ten thousand miles begins with the first step, and the first steps have already been taken.



Figure 7. Two good reasons to protect our water for future generations.

FURTHER READING

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William Shotyk William was born in the Village of Swansea, now part of the City of Toronto. He received his B.Sc. (Agr.) in Soil Science and Chemistry from the University of Guelph in 1981, a Ph.D. in Geology from the University of Western Ontario in 1987, and a Habilitation in Geochemistry from the University of Berne, Switzerland, in 1995. He is currently Professor of environmental geochemistry at the University of Heidelberg.

Chris Fraser As "chief finder" for Moveable Inc. in Toronto, Chris believes in the power of creativity. Since his days at Mount Allison University, and throughout his career in the printing business, Chris has helped creative people take their great ideas or messages from boardroom or brainstorming sessions to binderies or Web browsers. And now Chris is following in the steps of his ancestors who started Fraser Pulp and Paper (hewers of wood) and applying his creative energies to the whole concept of "drawers of water."

Brian O'Neill Brian is a founding Partner and Chief Technical Architect of TGT Solutions Inc., a North American systems integrator based in Stratford Ontario. TGT Solutions delivers a variety of business and technology consulting services to Fortune 1000 companies and Universities in Canada and the United States. Brian has worked with organizations such as Canadian Imperial Bank of Commerce, Sun Microsystems, Harvard University, Cornell and NYU. Brian lives in London Ontario with his wife, Carolyn and sons, Connor and Nolan.