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**A MAGAZINE ON  
BUSINESS & BIODIVERSITY**

Secretariat of the Convention on Biological Diversity

## **SPECIAL FOCUS ON CANADA**

### **The Canadian Boreal Forest Agreement**

**PROTECTING CARIBOU AND JOBS**

### **Syngenta aims to protect biodiversity to ensure sustainable food security**

**MODERN AGRICULTURE AND BIODIVERSITY CAN CO-EXIST**

### **Feature Interview: Pierre Gratton, President, Mining Association of Canada**

**TOWARDS SUSTAINABLE MINING INITIATIVE MARKS  
MAJOR SHIFT IN MINING INDUSTRY PRACTICES**

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SPECIAL FOCUS ON CANADA

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Convention on  
Biological Diversity



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## PREFACE

# Business and biodiversity in Canada

by **Braulio Ferreira de Souza Dias** •  
Executive Secretary, Convention on Biological Diversity



Welcome to the first edition of *business.2020* for 2014. For many of us based in Canada the winter of 2013-14 was particularly harsh and long. But as spring begins to bloom, we start to see nature at its best. This reawakening of nature makes all of us appreciate the richness of our planet's biodiversity. It should also remind us of its fragility, and the need for us to act in a responsible and sustainable manner vis-à-vis the environment.

There has been an ever-growing realization amongst Parties to the Convention on Biological Diversity (CBD), civil society and the business community that in order to tackle the enormous challenges facing us with regards to ecological degradation, we must work together in a constructive fashion. We can also collectively benefit from the enormous opportunities presented by the sustainable use of biological diversity. This means, however, that finding solutions and seizing these opportunities cannot simply be undertaken by governments alone, or only by business, or by civil society. Rather, we must work collectively and share the burden if we hope to meet the goals set out in the Strategic Plan for Biodiversity 2011-2020. To this end, the CBD Secretariat, along with various international partners, has been increasingly engaged with the business community so as to help them understand and mainstream the objectives of the Convention and the Strategic Plan, and thus lessen their ecological footprint. One of the ways in which we are undertaking this task is with the establishment of the Global Partnership for Business and Biodiversity, which was mandated at the tenth Conference of Parties (COP) held in Nagoya, Japan in 2010. Since its inception, the Partnership has developed a formalized governance and membership structure, and currently has 15 country and regional members representing many key developed and emerging economies.

In October 2013, the CBD Secretariat co-hosted the third meeting of the Global Partnership for Business and Biodiversity in Montreal, Canada. This conference was a great success, with 60 speakers and more

than 180 participants from 25 countries, featuring a cross-section of business sector representatives mixed with government, non-governmental organizations and academia. Each of the concurrent sessions was well attended, with the final discussion groups providing excellent ideas and recommendations to be addressed in future CBD processes. The full report of the meeting can be accessed on the CBD website: [www.cbd.int/business/bc/3m.shtml](http://www.cbd.int/business/bc/3m.shtml).

As a consequence of this meeting, we decided to use this edition of *business.2020* to explore and highlight some of the approaches that Canadian companies and organizations are taking in a variety of sectors (such as mining, forestry and energy). The companies sharing their experiences and best practices in this edition vary considerably in size, from smaller firms (such as Lowe Martin) to large national and multi-national firms (Suncor, Syngenta and Holcim). Canadian firms are used to operating in a highly competitive market and thus their decisions to address this issue does not reflect a naïve view of ecology, but rather sound business decisions beneficial to both the company and the environment.

In conclusion, I would like to note that preparations are well underway for the twelfth meeting of the Conference of the Parties to the Convention on Biological Diversity, to be held in Pyeongchang, Republic of Korea, from 7 to 19 October 2014. We are also in the planning process for a three-day business forum ("Mainstreaming Biodiversity: Innovative Opportunities for Business") that will take place on 12-14 October in parallel with the main conference. I welcome your participation in this forum. Details and programme of the business and biodiversity forum, as well as how to participate, can be found on the CBD website at: [www.cbd.int/business/bc/cop12.shtml](http://www.cbd.int/business/bc/cop12.shtml).

I hope you will find the case studies and related articles included in this edition of *business.2020* to be interesting and informative. Should you have any comments or questions please write to: [business@cbd.int](mailto:business@cbd.int). ✉

# Incorporating biodiversity considerations into business practices

by **Reg Melanson** • Executive Director, Canadian Business and Biodiversity Council

**B**iodiversity maintains the Earth's life support system in balance by making our natural world more resilient to adverse impacts from human activities. It underpins the global economy and human well-being. Conserving biodiversity is the ultimate environmental issue for concern, regardless of which driver (climate change, pollution, unsustainable use, etc.) may be causing its reduction.

Canadians continue to rank care for the environment as one of their top priorities in public opinion polls. Canada's economy is heavily based on its natural resources and Canadians, including Canadian businesses, recognize the importance of considering not only economic, but environmental, cultural and social aspects in decisions to ensure all development is sustainable. Environmental, social and related economic consequences, together with increasing scrutiny from investors and other stakeholders, are motivating businesses to adopt sustainability strategies and to disclose their performance on environmental and social aspects. Biodiversity policy is becoming a key pillar in corporate responsibility strategies. It often involves non-business partnerships, codes of practice, changing land-use practices and other significant new steps in corporate operations and activities, including their supply and distribution chains.

To integrate biodiversity conservation into business practices and planning, business leaders need to recognize the associated potential opportunities and risks. They need to assess the opportunities and risks of their biological footprint, how these can be managed to reduce their impact on ecosystem services and the factors that go into planning and implementing a biodiversity conservation action plan. Canadian business leaders understand their relationship to biodiversity and are becoming better able to manage their operations not only to improve business performance, but also to benefit from biodiversity conservation and the maintenance of ecosystem services.

The Canadian Business and Biodiversity Council is a business-led partnership (business-government-NGO-academia) helping Canadian businesses integrate biodiversity conservation in their strategies and operations. There are many Canadian business success stories of biodiversity conservation and many lessons have been learned about how to do it well. We hope the following business and biodiversity conservation examples will encourage other businesses to incorporate the sustainable use and conservation of biodiversity into their business strategies and operations.

If you have any questions or would like to learn more about the Canadian Business and Biodiversity Council, please contact us by email at [reg.melanson@businessbiodiversity.ca](mailto:reg.melanson@businessbiodiversity.ca), or visit our website at [www.businessbiodiversity.ca](http://www.businessbiodiversity.ca).



Clearing excess wood and brush from a small stream to increase flow and reduce sedimentation on the stream bottom. Spawning trout prefer a pebbly substrate to silt.



COURTESY OF STAFF MEMBERS, KENSINGTON NORTH WATERSHED ASSOCIATION

# Protecting biodiversity to ensure sustainable food security

MODERN AGRICULTURE DEPENDS ON BIODIVERSITY FOR POLLINATION, PEST CONTROL, SOIL PROTECTION AND NATURAL WATER CYCLING. THIS ARTICLE ILLUSTRATES SYNGENTA'S WORK TOWARDS SUSTAINABLE FOOD SECURITY AND PROTECTION OF BIODIVERSITY.

by **Chris Davison** ● Head, Corporate Affairs  
Canada, Syngenta Canada Inc.

Without protecting and nurturing biodiversity we cannot and will not be successful in meeting the demands placed on production agriculture to feed a growing and changing world population.

Simply put, modern agriculture depends on biodiversity for pollination, pest control, soil protection and natural water cycling; we also rely on biodiversity for the genetic resources necessary to breed new crop varieties which are integral to meeting increasing global demand.

Biodiversity, meanwhile, depends on modern agriculture's technologies, innovations and best practices for protection and vitality.

As a company that is committed to innovation in agriculture, we continue to work to dispel the misconception held by some that

modern agriculture and biodiversity necessarily come at the expense of one or the other.

## CHALLENGES

Of course, that's not to say we don't face some significant challenges going forward.

We cultivate approximately 40 per cent of the earth's surface for food production and our population is expected to reach more than 9 billion by 2050.

To meet demand, the Food and Agriculture Organization (FAO) of the United Nations estimates that global food output will need to increase by 70 per cent between now and then. If we expect to both preserve and benefit from biodiversity, we need to grow more from the land we've already got in production.

And, going forward, the main goal of a mutual interdependence between biodiversity and modern agriculture must be enhanced, sustainable food security.

Syngenta technologies and innovations, coupled with agronomic best practices, will have an important role to play in protecting biodiversity, while helping modern agriculture become even more productive.

As an example, Syngenta researchers are incorporating beneficial traits into crops that allow them to withstand biotic and abiotic stresses, such as drought resistance and fungal infec-



tions. These kinds of advances in seed breeding technologies draw upon the genetic diversity of (food) crops to improve yield, quality and nutritional value.

Our advanced crop protection products and technologies also help crops compete with weeds, disease and insect pests. Together with improved application technologies we are benefitting from reduced environmental impact and more effective, targeted pest management.

Syngenta's commitment to biodiversity isn't new or a flash in the pan. It's something that has been part of our company's DNA since we were formed in 2000 and, in fact, can be traced back beyond that to our predecessor organizations.

**GOOD GROWTH PLAN**

Recently, we launched our global 'Good Growth Plan' which is related to our collective global food security challenge. As part of this plan, we have made six commitments, each with an ambitious and specific target to meet by 2020. Arguably, a number of these commitments are related to biodiversity. However, one includes a specific target of enhancing biodiversity on five million acres of farmland.

At the same time, we also recognize there's more that can be done to enhance biodiversity in agricultural landscapes, such as the un-cropped "edge habitats" around farmlands. This includes boosting pollinator populations, reducing soil erosion, protecting water courses and preserving wildlife habitats.

A good example of how Syngenta is supporting this kind of work in Canada can be found through our collaboration with the Kensington North Watersheds Association and Bedeque Bay Environmental Management Association in Prince Edward Island.

Through this project, Syngenta is supporting efforts to reduce field runoff and improve biodiversity by planting natural buffer strips along the edges of farm properties and waterways, as well as restoring river and stream habitats.

Kensington North Watersheds Association executive director Barry Murray acknowledges the importance of our involvement in both helping to raise awareness and build positive relationships between local farmers and watershed group staff in support of these objectives.

In a recent conversation, Murray explained that Prince Edward Island is unique – an island with urban and rural sharing essentially the same space and in close proximity to one another.

This makes it all the more essential for the island's communities to make promoting and protecting biodiversity their shared, common goal.

Our own employees who work directly with these groups say that having both agricultural and environmental and urban and rural perspectives reflected in this work has led to a more holistic approach towards acknowledging and indeed fostering understanding of the mutually beneficial interdependence between biodiversity and modern agriculture.

It is a challenge that the agricultural sector at large needs to continue to embrace. We must all clearly recognize that realizing sustainable food security through modern agriculture is intimately and inextricably tied to the preservation of our world's rich, vibrant and diverse ecosystems. 🌱

CANADIAN TOURISM COMMISSION



# The sustainable use of Canada's peatlands

THE CANADIAN SPHAGNUM PEAT MOSS ASSOCIATION (CSPMA) HAS ADOPTED A PRESERVATION AND RECLAMATION POLICY FOR THE SUSTAINABLE MANAGEMENT OF PEATLAND THROUGH A BALANCE BETWEEN ENVIRONMENTAL RESPONSIBILITY, ECONOMIC VIABILITY AND SOCIAL ACCOUNTABILITY.

by **Paul Short** ●

President, Canadian Sphagnum Peat Moss Association

Canada is the world's largest producer and exporter (1.2 million metric tons/year) of sphagnum peat moss. Commercially, peat is primarily used in the horticultural industry but is also used for water and sewage filtration systems as well as absorbent materials. Canada has extensive peatlands (more than 113 million hectares) but less than 0.02% is used for peat harvesting.

To decrease impacts on harvested peatlands, Canada's sphagnum peat moss industry is committed to a responsible management and sustainable development approach that provides a balance between environmental responsibility, economic viability and social accountability. The industry is fully engaged with Canada's science community in the research necessary to understand the ecosystems relationships and environmental functions of peatlands. The Canadian Sphagnum Peat Moss Association (CSPMA) and its members have adopted a Preservation and Reclamation Policy that sets out procedures for the pre-development, harvesting and closing of a peatland and CSPMA members agree to abide by the Policy for all new bog development.

The industry, in association with universities and governmental agencies, has developed a national peatland research strategy to promote awareness of peatland restoration technology and science. The work of the Industrial Research Chair in Peatland Management, University Laval, has provided the industry with the science and methods to begin the restoration of peatlands following the completion of harvesting activities. The evidence from this research demonstrates that restoration efforts can return a peatland that has been harvested for horticultural use to a functioning ecosystem within a period of 10 years.

To provide direction and guidance to its members, the CSPMA and its research partners have developed a Peatland Restoration Guide based on the knowledge gained through this research. Some recommendations arising out of this guide include:

- Peatland adjacent to a harvested site should be preserved in a natural state to ensure a supply of native flora for future restoration work



- A peat layer at least 50 cm thick should be left post-harvesting to facilitate restoration
- Water levels should be restored as close to the surface as possible
- Follow-up and monitoring work should be done on a long-term basis.

Research to improve the efficiency of existing methods and to develop indicators of restoration success is ongoing.

The CSPMA, through Scientific Certification Systems (SCS) of California, has developed a third-party certification program of its peatland management practices. The Veriflora® Certified Peatland Products for Responsible Peatland Management is the only peatland management certification in the world. The achievement of certification under this standard is considered an important component of the industry's commitment to sustainability accounting.

The industry has invested in an environmental and social life-cycle analysis (LCA) with the Interuniversity Research Centre for the Life Cycle of Products, Processes and Services (CIRAIG) and Group AGEKO. The cradle-to-grave environmental LCA includes the processes and activities pertaining to the production, conditioning, distribution and end of life of Canadian sphagnum peat moss. It takes into account all business activities and operations in Canada and estimates impacts according to different impact categories (biodiversity, atmospheric, water, resource management and energy used), with a goal of continuous improvement.

The association, as well as each horticultural peat company, are committed to producing an Industry Social Responsibility Report (ISR). This requires the industry and companies to agree upon a set of common measures and prepare responses to the questions raised in the LCA benchmarking studies. The LCA identifies the environmental account for peat harvesting and the "hot spots" that need improvement. By taking action on the key hot spots within the association and each company and reporting on these changes over time will give an environmental score card for the sector. The ISR report is proposed to be published every three to five years and will be based on common measurements of sustainability applicable to all industry members.

The peat industry continues to improve its understanding of the environmental, social and economic value of peatland complexes and its industry. Without the understanding and integration of all three elements (environmental, social and economic) into the management of its industry, sustainability cannot be achieved. ❖

# Tembec places priority on sustainable forest products

THIS ARTICLE ILLUSTRATES WHAT MOTIVATES TEMBEC, ONE OF CANADA'S LARGEST FORESTRY COMPANIES, TO TAKE ENVIRONMENTALLY FRIENDLY ACTIONS IN SUPPLYING SUSTAINABLE FOREST PRODUCTS.

by **Roisin Reed** ●

Freelance writer based in Ottawa, Canada

For someone who has spent most of his career in forestry, Chris McDonell has a lot of friends and supporters in the environmental community.

McDonell is manager of aboriginal and environmental relations at Tembec, one of Canada's largest forestry companies. Tembec has been influential in the Canadian forestry industry's efforts to become a global leader in environmentally sustainable forest products. The company manages about 25 million acres of publicly-owned forests in Ontario and Quebec, all of which have been managed in keeping with stringent Forest Stewardship Council (FSC) standards since 2008.

His work with Tembec, and on the board of the FSC in Canada, has earned McDonell a high degree of credibility with Canadian

conservation groups. Respected by both his forest products company peers and environmental groups, McDonell was appointed as the rotating chair of the Canadian Boreal Forest Agreement (CBFA) in September 2013. The CBFA brings together 19 forestry companies and seven leading Canadian environmental non-government organizations (ENGOS) to work towards a stronger, more competitive forestry industry and a better protected boreal forest.

McDonell credits the environmental community with bringing a cooperative approach and global perspective to conserving Canadian forest ecosystems, through their work with the CBFA and FSC, but also by working with individual companies to improve practices.

"I've learned that it is valuable to bring staff from ENGOS and forestry companies together on the ground," says McDonell. "The 'two solitudes' approach created the perception that companies wanted to cut down every tree and ENGOS wanted to protect every tree, but when you get out in the woods with ENGO staff and ecologists and forestry practitioners and are open about what you are doing and the rationale, the ENGOS will bring a more global context and it's very productive."

## METICULOUS PLANNING

Tembec's approach to conservation involves meticulous planning at the landscape level, as well as sustainable practices on the ground. Canada's forestry regulations are among the strictest in the world, but Tembec struck a partnership with the World Wildlife Fund-Canada (WWF-Canada) in 2001, to go above and beyond, achieving FSC Chain of Custody certification for all its lumber, pulp, cellulose and paper operations.

"Our planning process involves landscape-level survey work done in advance to ensure that timber harvesting is done in the right place," says McDonell. "This lets us take into account issues like maintaining old growth forests, ensuring space for woodland caribou and working with First Nations to maintain areas of cultural importance."

He cautions, however, that on-the-ground training is also important. "People have to learn to identify critical habitats and features which don't show up in surveys but are critical for wildlife, like nesting trees for migratory birds, areas around streams and bear dens. Our forestry technicians and machine operators have been given both the training and the mandate to recognize and preserve these features."



COURTESY OF FOREST PRODUCTS ASSOCIATION OF CANADA



CANADA TOURISM COMMISSION

McDonnell says environmental leadership has become an integral part of Tembec's brand, with buyers of forest products increasingly signalling that voluntary initiatives are an important selling feature. He points out that major customers such as Home Depot specifically seek out sustainable forest products.

"Tembec saw an opportunity to differentiate ourselves as customers sought to avoid the risk of sourcing from controversial areas. With Tembec's products, they can be assured that extra diligence has been taken," he says.

"It wasn't easy changing our forestry practices to meet FSC standards, but we worked with environmental partners like WWF and the Canadian Parks and Wilderness Society, and with First Nations, to modify our practices in a unique and different way. It has grown to be an important part of what we talk to customers about."

McDonnell has high hopes for the future of sustainable forestry in Canada, and brings his experience and optimism to the work

**Canada's forestry regulations are among the strictest in the world, but Tembec struck a partnership with the World Wildlife Fund-Canada (WWF-Canada) in 2001, to go above and beyond, achieving FSC Chain of Custody certification for all its lumber, pulp, cellulose and paper operations.**

he does with the CBFA – an agreement in which he played an important part negotiating. He sees environmental sustainability as a key factor in keeping Canada's forestry industry competitive, and recognizes the importance of industry taking the initiative to ensure that Canada's forests are managed responsibly for generations to come.

"It is about recognizing and internalizing that we don't own the land – it is public land, it is the traditional territory of First Nations and we share a responsibility to maintain it." ❧

# Forging a path to sustainability

THE LOWE-MARTIN GROUP IS AN INTERESTING EXAMPLE OF HOW SUSTAINABLE BUSINESS PRACTICES CAN RESULT IN ECONOMIC BENEFITS FOR A COMPANY.

by **Ward Griffin** ●  
 President and CEO, The Lowe-Martin Group

I often hear my peers in the printing industry say that they don't pursue sustainability practices because the problems are too complex and their companies too small to make a meaningful difference. I disagree. My experience running a 105-year-old, family-owned business tells me that even smaller manufacturers who operate in a mature, highly-competitive sector can find a path to sustainability.

The Lowe-Martin Group's main activity is printing. We provide many other related services, but printing—which uses significant amounts of paper, electricity and chemicals—is at the core of our business. Today, with 550 employees located mainly in Toronto and Ottawa, we would be classified as a relatively small player in the economy. When we took our first steps on the sustainability path in the late 1980s, we were a much smaller firm, with only 100 employees. At that stage, we began to promote recycled papers to our customers and began to work with vegetable-

based inks. Throughout the early- and mid-90s, a period of growth for our company, we made incremental improvements to our processes, focusing mainly on recycling and reduction. By 1998, we were ready to launch a more ambitious program, which had two related goals in mind: help leave the environment in a state where our company could thrive for another hundred years, and leave our children with the opportunity to lead as fulfilling a life as ours.

## FIVE FUNDAMENTAL PRINCIPLES

We began by identifying our five fundamental principles: industry leadership, resource stewardship, risk management, verification, and regulatory compliance. We focused on the environmental issues that are particularly significant for Lowe-Martin: climate change, forestry management, hazardous materials, energy management and renewable energy.

Our first step was to begin emphasizing the use of recycled papers, recycling our waste products and using safe chemicals. We began to formalize our strategy when Lowe-Martin became one of the first printing companies to qualify for the Canadian Treasury Board's Eco Logo certification in 1998. We eliminated the use of products with benzene, halogenated solvents and isopropyl alcohol, restricted the use of Volatile Organic Compounds, reduced photo-processing waters and wastewater in our facilities, increased the level of recycling, and set tough sewer effluent targets.

We attained Forest Stewardship Council (FSC) Chain of Custody certification in March 2003. FSC, the gold standard in responsible forestry, is the only certification system that prohibits the use of genetically modified trees, prevents the conversion of natural forest to plantations and requires a precautionary approach to the management of areas with high conservation value.

Through more efficient use of natural resources, we continue to lower the financial and environmental cost to manufacture our products. For example, we increased our in-house energy efficiency by installing heat extraction and recovery systems, making R-value and lighting retrofits, installing in-house solvent recovery systems and expanding our paper recycling programs.

## TRACKING PROGRESS

In addition to these efforts, Lowe-Martin has been tracking and measuring our Greenhouse Gas (GHG) emissions in accordance with the GHG Protocol since 2007. Quantifying GHG emissions helps us identify reduction opportunities and track our progress from year to year.

Once we have done as much as we can to conserve and mitigate through the use of greener alternatives like renewable energy, we purchase carbon offsets for projects, producing measurable



COURTESY OF THE LOWE-MARTIN GROUP

emissions reductions and environmental, economic and social benefits.

What is evident from our history is that we have made steady progress with our conservation efforts. I believe this gradual, careful approach is one of the reasons for our success. Firstly, it has allowed us to make changes in the way we operate at a pace that is sustainable for our business, both from a monetary perspective and from a business focus perspective. It is amazing what you can achieve when you start something and don't give up. Secondly, it has allowed environmental consciousness to become more firmly ingrained in our culture.

While there is an important role for large multinational organizations that mandate their suppliers to adopt progressive policies, smaller companies like ours can make significant contributions to the environmental movement. We have adopted a strategy based on sustainability and we have discovered great customers who value our environmental approach. In effect, doing the right thing has helped make the company a success. There is a great opportunity for both large and small or medium-size companies to support biodiversity on the planet. My message to my peers is that, while our individual companies may be relatively small, our combined effect can be powerful. ♡

## The Canadian Boreal Forest Agreement: Protecting caribou and jobs

THE CANADIAN BOREAL FOREST AGREEMENT (CBFA) IS TAKING AN IMPORTANT AND INNOVATIVE ROLE IN IMPLEMENTING SUSTAINABLE FOREST MANAGEMENT PRACTICES.

by **Mark Hubert** • Vice-President, Environmental Leadership, Forest Products Association of Canada

The boreal forest, one of the world's largest ecosystems, stretches across Canada like a green swath filled with trees, lakes and wetlands that is home to thousands of species of animals, birds, and plants.

It is also home to more than 2.5 million Canadians, including a large aboriginal population, with many living in remote communities that rely heavily on the forests for their livelihood and economic stability.

Preserving nature including wildlife diversity while also providing timber resources for the forest products industry has often been seen as mutually exclusive or a recipe for conflict and confrontation.

The Canadian Boreal Forest Agreement (CBFA) is meant to change that paradigm with conservation groups and forest product companies agreeing to work together to co-operate on ways to protect both the environment and the economy. The landmark CBFA, signed in May of 2010, applies to 72 million hectares of boreal forest stretching from Newfoundland to British Columbia and as such is the largest agreement of its kind ever reached anywhere in the world.



### STRINGENT REGULATIONS

Even before the CBFA, the Canadian forest products industry had firmly embraced biodiversity and a conservation ethic. In fact Canada's forestry regulations were cited as being among the most stringent in the world in a 2004 study called *Global Environmental Forest Policies* from Yale University. Canada is also a global leader in third-party forest certification, with about 150 million hectares or about 40% of the total certified forests in the world. This ensures

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forest management practices embrace stringent environmental measures to conserve biological diversity.

The CBFA is building on this impressive record with both environmentalists and industry working together on a number of goals: to implement world-leading sustainable forest management practices; to accelerate the completion of the protected spaces network for the boreal forest; to fast-track plans to protect boreal forest species at risk, particularly woodland caribou; to take action on climate change as it relates to forest conservation; to improve the prosperity of the Canadian forest sector and communities that rely on it; and to promote and publicize the environmental performance of the participating companies.

Much of the early work of the CBFA has concentrated on the woodland caribou, an iconic species that is viewed as an important part of a healthy boreal forest. The caribou are officially listed as “threatened” under the federal Species at Risk Act. They travel through large landscape areas that experience disturbance for such reasons as fire and habitat alteration.

The CBFA is taking a unique approach that is firmly based on science. Rather than looking at individual areas or dealing with the issue company by company, the agreement takes a pan-boreal approach to find a network of areas to support the survival and recovery of woodland caribou. Ground breaking work under the CBFA has already resulted in a methodological framework or blueprint for caribou action planning supported by an independent team of scientists. This is the most comprehensive work ever conducted in this area.

A CBFA working group involving environmentalists and industry have also reached an action plan that both secures the future of 3 million hectares of caribou range in Northeastern Ontario's Abitibi River Forest while maintaining hundreds of jobs in forestry. The plan produces over 800,000 hectares of critical habitat for Boreal woodland caribou that would be excluded from harvest with the remaining 2.2 million hectares open to forestry that follows high standards of sustainable forest practices to safeguard wildlife and ecosystems. The plan is supported by First Nations and local communities and we are now hoping to receive provincial government support for implementation.

Progress is also being made under the CBFA on plans to support caribou recovery from Alberta to Newfoundland yet still allow for a vibrant forest products industry. Although the initial focus is on woodland caribou, the CBFA signatories have collectively agreed to support recovery planning for other important boreal species moving forward such as Boreal felt lichen and grizzly bear.

Implementing the CBFA has not always been easy and challenges and hard work lie ahead. But there is no doubt that forest companies in Canada are embracing this conservation ethic. The Canadian forest sector and its environmental partners are leading the way in their commitment to find solutions based on science to maintain both ecological integrity and a healthy forest products industry. ❖

## FEATURE INTERVIEW

# Pierre Gratton

**P**ierre Gratton, president of the Mining Association of Canada, discusses the shift towards more sustainable mining practices and about his personal experience in this area.

**business.2020: In 2004 the Mining Association of Canada (MAC) initiated Towards Sustainable Mining (TSM), a set of guiding principles and performance elements aimed at six key areas of operational performance that includes biodiversity conservation. What were the underlying reasons for getting involved in this project? What type of support was received in the development of the Guiding Principles? What were the some of the obstacles encountered?**

The Mining Association of Canada launched the Towards Sustainable Mining initiative, a set of tools and indicators to drive performance and to ensure that our members are doing the right things for the right reasons at each of their facilities. At the time, there was a growing recognition that the status quo was no longer sustainable. The public's views and goals were changing and the industry needed to improve its performance, both socially and operationally, to remain aligned with broader community values.

The TSM Guiding Principles are the foundation of the initiative and were developed collaboratively with the mining industry and with our communities of interest, including government, mining communities, Aboriginal and non-governmental organizations. TSM continues to evolve with the ongoing advice and support of the Community of Interest (COI) Advisory Panel – an independent, multi-interest group that oversees the TSM initiative and serves as a consultative body for the Canadian mining industry.

TSM marked a major shift in the way the mining industry operates and conducts its business in Canada. As the initiative was developed, it was essential that it be membership driven. It was also important to ensure that TSM would be a practical tool for operators on the ground, which was the biggest challenge throughout the development of the initiative. A decade later, TSM has proven to be successful in pushing for continuous improvement in the mining sector. The proof is in the results, which have seen steady improvement over the duration of the initiative.

**business.2020: Drawing from your experience in the mining industry, how can businesses become more engaged? How can we encourage businesses to use their resources more sustainably?**

Adopting leading corporate responsibility practices makes good business sense. Not only can it help to save costs, but it also

helps mining companies maintain their privilege to operate with their communities of interest.

Moreover, a growing number of investors are interested in how companies are managing their environmental and social responsibilities and risks. Therefore, as investors factor in environmental and social performance into investment decisions, they are encouraging companies to adopt more sustainable business practices. Investors are also looking to access tools to help them quantify how companies are managing their social and environmental risks and gauge whether mining companies are applying best management practices at the facility level.

**business.2020: What drivers for business engagement do you see as being most effective?**

When TSM was being developed, the MAC membership understood the importance of addressing social and environmental issues from a company standpoint at the facility level. The main objective of TSM is to drive performance improvement in each protocol area at each facility. Doing this helps members understand and manage their risks and maintain their privilege to operate. It took real leadership from the membership to commit the resources to develop TSM and to commit to implementing the protocols at all of their Canadian facilities. That leadership allows TSM to continue to evolve and grow today.

TSM has always taken regulatory compliance as a base assumption and has strived to add value beyond regulation; however, anticipated regulation was a driver behind a few of the TSM performance protocols. For example, the energy use and greenhouse gas emissions management protocol was intended to put MAC members ahead of climate change regulation.

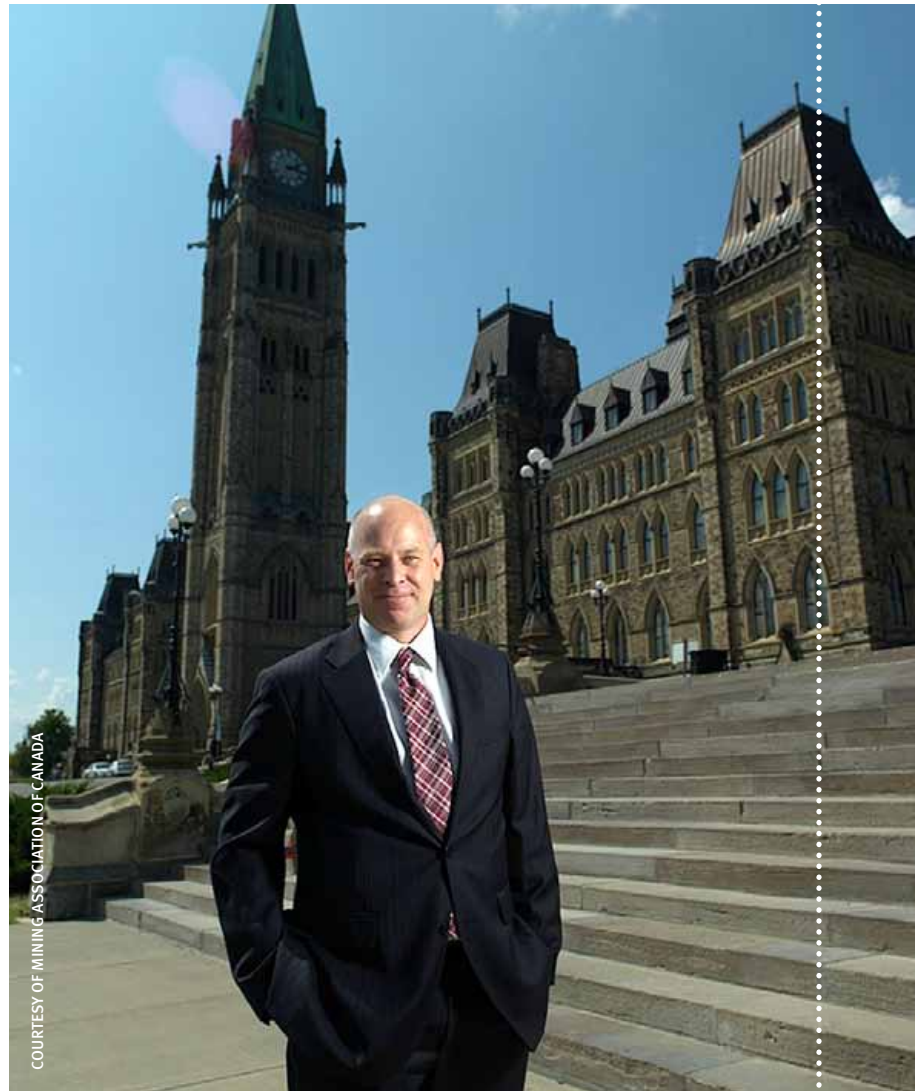
**business.2020: Do you think it is practical that performance standards for industry, such as the mining industry, can be developed and implemented at a global level or are such standards only practical on a national/regional level?**

TSM began as a Canadian initiative. Now, ten years later, the program's success and the benefits it brings to both mining companies and communities have helped move TSM from being Canadian-only to an increasingly international corporate responsibility standard.

Participation in TSM is mandatory for all MAC members' for their Canadian operations, but some companies have also proactively applied the initiative to their operations overseas. For example, in Africa, IAMGOLD implemented TSM in 2010 and has been consistently reporting progress at its Essakane gold mine in Burkina Faso since 2011. In other parts of the world, First Quantum applies TSM at their operations in Turkey, Finland and Spain, while HudBay Minerals has committed to implement TSM at its mine in Peru when it becomes operational.

No matter where mining companies operate, the areas that TSM covers and measures are industry-wide priorities. Through TSM,

Today, communities around the world expect more of mining companies and the industry also expects much more of itself. Corporate responsibility standards are one way that companies can help manage risks and avoid potential conflicts.



COURTESY OF MINING ASSOCIATION OF CANADA

mining operations can more effectively engage with people in surrounding communities, as well as ensure they are well-informed of relevant issues. TSM also helps to ensure the safest possible working environment for employees and contractors at the mine site.

Today, communities around the world expect more of mining companies and the industry also expects much more of itself. Corporate responsibility standards, like TSM, are one way that companies can help manage risks and avoid potential conflicts. As more mining companies seek best practices in environmental and social responsibility, we will continue to encourage the adoption of TSM as the right standard to meet their goals. ❖



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# Balancing conservation with economic, social and cultural values

NEW GOLD CREATED A BIODIVERSITY CONSERVATION MANAGEMENT PLAN TO ENSURE THAT IT CAN MANAGE BIODIVERSITY AS A PART OF ITS ONGOING OPERATIONS.

by **Scott Davidson** ● Environment and Social Responsibility Manager, New Gold Inc.

Situated within the traditional territory of the Tk'emlúps te Secwépemc and Skeetchestn Indian Bands (together referred to as Stk'emlúpsemc of the Secwépemc Nation (SSN)), the New Gold – New Afton Mine (New Afton) is an underground gold-copper mine located approximately 10 km from Kamloops in the southern interior of British Columbia (BC), Canada. Together, New Afton and the local First Nations work to build thriving communities while simultaneously acknowledging and respecting the intricate connections between the land and all living things.

New Afton, as part of its commitment to the Mining Association of Canada's (MAC) Towards Sustainable Mining (TSM) initiative, is committed to biodiversity conservation. In December 2013, New Afton created a Biodiversity Conservation Management Plan to ensure that it can successfully manage biodiversity conservation as part of ongoing operations. The organization is committed to enhancing and conserving biodiversity, and creating and maintaining an environment conducive to health and prosperity.

Grasslands and wetlands are vital to biodiversity and provide sanctuaries for many plants and animals in the semi-arid Kamloops region. Wetlands are scattered throughout the property, including the private land owned by New Gold on the north side of the Trans-Canada Highway 1. During 2013 New Afton restored a large wetland that was prone to desiccation and cattle disturbance with the goal to repair its functionality and sustainability. This enhancement will greatly improve habitat and provide refuge for a variety of species found in the interior grasslands including the Great Basin Spadefoot toad, a blue-listed species in BC. The second phase of this project was the construction of eight small breeding ponds in conjunction with the Thompson Rivers University (TRU) Master of





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Science (MSc) in Environmental Science program. The MSc project, studying the ecology of the spadefoot, will provide new information that will assist with effective management of spadefoot populations and habitat at the mine site and throughout BC.

Other on-site initiatives include habitat enhancement for a variety of bird and bat species, including the mountain bluebird, cliff swallow, tree swallow, downy woodpecker, northern flicker, small-footed myotis, big brown bat and little brown bat. The company builds and installs bird and bat boxes, engaging First Nations students and bands in the program to increase awareness and build relationships with New Afton. An important habitat creation project being undertaken is the conversion of an old ore bunker from previous mining operations into bat habitat. Enhancement of these habitats contributes to the overall health of the mine site ecosystems.

In addition to the aforementioned projects, New Afton has invested in notable ground-breaking research projects with involvement in the Barcode of Life project conducted by the Canadian Center for DNA Barcoding at the University of Guelph in Guelph, Ontario. The project intends to quantify the level of diversity among the insect populations that are currently utilizing different ecosystems (grasslands, wetlands, grass-forest interface) on the mine site. The objective is to repeat the sampling over the life of mine and into the post closure period to understand changes in the functional groups present within these distinct ecosystems during operations and into mine closure.

Reclamation research is also ongoing into identification of culturally significant native revegetation species. This project between

the SSN, TRU and New Afton is investigating means to incorporate native plant species into land reclamation at the mine. The goals of the project are 1) to find a combination of native plants which will germinate and establish quickly thus reducing erosion and invasive plant establishment; 2) to gauge the effectiveness of hydroseeding; and 3) to look at soil amendments and the effect on native species of the area.

New Afton proudly supports off-site biodiversity enhancement projects fulfilling key initiatives to communicate, educate and increase public awareness of biodiversity. The Dallas-Barnhartvale Nature Park Wetland Restoration Program restored the functionality of the natural ecosystems within a previously impacted urban park. Another initiative was assisting the Nature Conservancy of Canada in creating the Warner Philips Conservation Area, protecting 640 acres of grassland habitat south of Kamloops. New Afton and New Gold have continued their support for the Nature Conservancy of Canada so that they may fund other projects in BC or across Canada. Supporting off-site projects builds healthier environments and mutually beneficial relationships with surrounding communities.

The company is focussed on mitigating their impact on the land and takes pride in its commitment to balance economic, social and cultural values. New Afton recognizes the cultural significance of these lands and actively promotes biodiversity conservation in an effort to “do the right thing” – the mine’s over-arching value of integrity. ❖



COURTESY HOLCIM (CANADA) INC.

# Producing construction materials sustainably

HOLCIM, ONE OF THE WORLD'S LARGEST CEMENT, AGGREGATES AND CONCRETE PRODUCERS, IS IMPLEMENTING BIODIVERSITY MANAGEMENT SYSTEMS ACROSS ITS LOCATIONS TO REDUCE ITS IMPACT ON LOCAL ECOSYSTEMS AND NEIGHBORING COMMUNITIES

by **Luc Robitaille** ●

Corporate Director Environment, Holcim (Canada) Inc.

**H**olcim, one of the world's largest cement, aggregates and concrete producer, operates two cement plants and 18 quarries or pits in the Provinces of Ontario and Quebec in Canada. Of the 3,000 hectares that these facilities occupy, more than one third serves as buffer lands around the active site operations. In addition, more than 500 hectares have already been rehabilitated to support diverse ecosystems.

In Canada, Holcim has been implementing the biodiversity management system it developed jointly with the International Union for the Conservation of Nature and which is publicly available on the IUCN website. By the end of 2013, Biodiversity Action Plans were finalized for its four most important sites, as determined using the risk matrix developed in partnership with IUCN. Starting in 2014, action plans will be developed for moderate risk sites in parallel with the revision of quarry rehabilitation plans which are regularly updated for each site.

For example, as part of its current Biodiversity Action Plans, Holcim Canada has, at selected sites, been planted butternut trees on its buffer lands, created artificial breeding ponds for the Jefferson Salamander and has created nesting boxes for the black rat snake. As operations progress, Holcim has been involved in the transplantation of locally important species such as the wild leek and the rock elm. Holcim continually monitors, in partnership with local groups, such as Bird Studies Canada, the health of the local ecosystems and has developed educational materials and training programs for its on-site personnel so they can recognize and protect these critical species and enhance the habitats found on an around its active and rehabilitated sites.

In Canada, fifteen of the 20 sites operated by Holcim are located in former agricultural lands or in commercially zoned areas. Therefore, biodiversity is generally enhanced once the operations are completed and the site is restored.

### PROTECTING SPECIES

Protecting species is also managed as part of normal site operations. Holcim has been installing nesting boxes in inactive section of several of its quarries to provide habitat for threatened species such as the peregrine falcon and managing aggregate piles so that migrating birds such as the bank swallow can safely nest away from active piles. Research is also being conducted with local conservation groups and schools to determine if nesting boxes can be installed on cement silos for bats which otherwise face enormous pressures due to habitat loss, especially in urban areas.

An essential component of biodiversity action at Holcim in Canada is the support of educational programs such as the Bring Back the Wild program launched by Earth Rangers who brings its message of conservation and species protection to elementary schools throughout Canada. In addition, as part of this program, Holcim has specifically supported activities to protect two locally important song birds, the wood thrush and the barn swallow, which have seen their populations dramatically fall in Ontario in the past few years.

It is also important for Holcim to lead its industry in adopting best management practices for the entire sector. This work, under the name Sustainable and Environmentally Responsible Aggregates standard (SERA) was initially launched in partnership with Environmental Defence an important Canadian environmental group. This effort has recently been expanded to include other industry players under the Cornerstone Standard label, which will eventually extend to include all the activities of the cement to concrete supply-chain.

Biodiversity protection, of course starts with resource conservation, consequently, Holcim has been and remains one of the industry leaders in the recycling of concrete, reducing therefore our society's dependence upon virgin raw materials.

Biodiversity protection for the construction materials sector is not only a significant challenge, it is also an opportunity to leave a positive and lasting footprint on local ecosystems. Holcim supplies the construction materials essential to meet our society's needs, even as we move towards a more sustainable economy which will rely increasingly upon cleaner power such as hydro-electricity, wind power, upon public transit, urban densification, green roofs and more energy efficient and durable construction, which all require the materials produced by the company. Holcim continues to prove that it is possible to produce construction materials sustainably while continuing to work to reduce its impact on local ecosystems and neighboring communities. ♻️



COURTESY HOLCIM (CANADA) INC.



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# Suncor Energy works to preserve and restore biodiversity

THIS PIECE DISCUSSES SUNCOR ENERGY'S (ONE OF CANADA'S LARGEST ENERGY COMPANIES ACTIVE IN OIL SANDS DEVELOPMENT) EFFORTS TO DEVELOP INNOVATIVE TECHNOLOGIES TO RECLAIM LAND.

by **Kelli Stevens** ●

Senior Advisor, Media Relations, Suncor Energy Inc.

Suncor Energy is one of Canada's largest energy companies, with approximately 14,000 employees and earnings of \$2.78 billion in 2012. And while the company has operations in refining and marketing, renewable energy, natural gas and offshore oil production, Suncor is most known for its position in the often-controversial oil sands industry located in the boreal forest of northeast Alberta, Canada.

Stakeholder expectations, regulatory requirements and Suncor's "triple bottom line" approach – where environmental and social factors are considered alongside economic measures – have led the company to increase its focus on strategies for oil sands reclamation and the promotion of biodiversity, among other things.

Reclamation is not a new concept. In fact, the provincial government requires industry to obtain approval on their reclamation plans before beginning construction on any new project.

As part of Suncor's ongoing reclamation work, the company contours land to a natural appearance, provides suitable drainage and takes steps to minimize erosion. By the end of 2012, Suncor had planted nearly six million trees on its main oil sands site. All the trees come from local seed stock, gathered before the land was disturbed to ensure the trees would be suitable for the local climate.

## TAILINGS PONDS

A more challenging aspect of the company's reclamation program, however, are the tailings ponds associated with oil sands mining. Tailings are left behind by the mining process, and have historically been stored in ponds. As this approach becomes less acceptable, industry has considered other strategies and technologies, and using its TRO™ process, Suncor became the first oil sands company to turn a tailings pond into a trafficable surface (in 2010), and has since been actively re-vegetating it. And rather than keep the technology all to itself, Suncor has made TRO™ available to 13 other companies through a unique industry collaboration called Canada's Oil Sands Innovation Alliance (COSIA).

Progressive reclamation involves monitoring, seeding, fertilizing, tree planting, seed collecting, and topsoil salvaging and replacing. Suncor involves outside expertise from a variety of sources in doing so, including governmental/regulatory scientists, post-secondary institutions, and traditional knowledge from local aboriginal peoples. The latter led Suncor to plant ratroot, a regional aquatic plant that is widely used by aboriginal peoples as a multi-purpose medicine.



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COURTESY OF SUNCOR ENERGY

Today, the 220-hectare former tailings pond is a mixed wood forest and small wetland. Now called Wapisiw Lookout (for “swan” in Cree), ongoing monitoring helps Suncor ensure the new forest matures into a healthy, self-sustaining ecosystem. Another indicator of success is the wildlife returning to reclaimed lands. Animal species spotted on sites like Wapisiw include sensitive avian species, coyote, grey wolf, red fox, black bear, mule and white-tailed deer, snowshoe hare, moose, Canadian Toads and Boreal Chorus frogs.

Suncor expects to reduce the number of tailings ponds at its base site from eight to two in the years ahead, and is looking at other reclamation techniques as well. In the summer of 2013, the company opened one of the first man-made fens in the world, constructed in a former mine pit. (A fen is a carbon-accumulating wetland, common to the region.)

Looking at industry-wide efforts, COSIA oversees the refinement of a database and modelling tool known as Landscape Ecological Assessment and Planning (LEAP) to better target where and how conservation and reclamation efforts can have the greatest desired impact, and what current areas of reclamation and reforestation will look in the future. Another project under the COSIA umbrella is the Oil Sands Vegetation Cooperative, a regional seedbank designed to ensure a large number of species (and species variations) are available for use in reclamation.

**As part of Suncor’s ongoing reclamation work, the company contours land to a natural appearance, provides suitable drainage and takes steps to minimize erosion.**

In addition to COSIA, Suncor works with others as a signatory to the Boreal Forest Conservation Framework (a national conservation vision developed by First Nations, environmental groups and resource companies), as a partner of Ducks Unlimited for research into boreal swamp reclamation, and alongside the Alberta Conservation Association to protect boreal forest in other parts of Alberta.

In the company’s day-to-day operations, Suncor strives to reduce incidents with wildlife: by using bear-proof waste containers, by installing signs near frequent wildlife crossings, and by utilizing a bird deterrent program – to name just a few examples.

Suncor acknowledges that oil sands development disturbs land, but the company also knows the land is not lost forever. What’s key instead is to use a multi-pronged approach to reclamation, and to start planning that approach long before the first tree is removed or the first drop of oil is produced. ❖

# Maximizing the biodiversity benefits of corporate lands

THIS ARTICLE ABOUT THE WETLAND CREATION INITIATIVE AT ONTARIO POWER GENERATION'S NANTICOKE GENERATING STATION ILLUSTRATES THAT WORKING WITH NATURE CAN BE COST EFFECTIVE.

by **Gerry McKenna** ● Senior Environmental Scientist, Ontario Power Generation

“Think Globally, Act Locally” is a cornerstone of environmental stewardship and front and centre in Ontario Power Generation’s (OPG) biodiversity programs. OPG’s Environmental Policy states that, “OPG will work with its community partners to support regional ecosystems and biodiversity through science-based habitat stewardship.” and that the company will “... manage its sites to maintain, or enhance where it makes business

Wetlands have been lost through both large scale and incremental drainage and infilling projects. The Nanticoke wetland project was an opportunity to offset these losses in a small but meaningful way.

sense, significant natural areas and associated species of concern.” Meeting this commitment requires creative and efficient use of available resources.

OPG’s Nanticoke Generating Station is a coal-fired station poised midway along the north shore of Lake Erie in Ontario, Canada. At its peak, the station was capable of delivering up to 24 billion kWh annually, enough electricity to run 2 million homes for a year. Nanticoke GS was scheduled to cease operations at the end of 2013.

While Nanticoke GS has a proud legacy of providing safe and reliable energy, the operation also has a “greener” side to its history. In 1994, the traditional activity of extensive mowing in the remote areas of the site was replaced by “passive naturalization”. Once the mowing stopped, nature moved in, and in partnership with an active tree planting program, the 24 hectare manicured parkland has transformed into diverse woodland and grassland habitat. “Nanticoke Park” is now frequented by red-tailed hawks and other birds of prey, while several species of owls find sanctuary during the winter months amongst the remnant stands of spruce and pine. Bobolink and eastern meadowlark, considered “Species at Risk” in Ontario, have adopted the grassy expanses interwoven with the new emerging woodlands. Tree swallows scurry amongst the nest boxes and garter snakes surface in the spring from the constructed hibernacula.

Bisecting the newly created habitat was a drainage swale conducting runoff from the roadways and farmlands to the north through the station’s ditches and eventually to Lake Erie. Staff proposed impounding and containing the flow from the drainage swale to create a wetland.

The Ontario Ministry of Natural Resources (OMNR) estimated there were over 2 million hectares of wetlands in Southern Ontario prior to European arrival, and that over 70 per cent of these have disappeared – drained for agriculture or development. In southwestern Ontario, where Nanticoke GS is situated, this figure is cited as high as 90 per cent. This has contributed to 7 of the 8 species of turtles being listed on the provincial “Species at Risk” list. Wetlands have been lost through both large scale and incremental drainage and infilling projects. The Nanticoke wetland project was an opportunity to offset these losses in a small but meaningful way.

## CREATING A NEW WETLAND

In the spring of 2010, a plan was hatched to create a new wetland taking advantage of the existing drainage, topography, and soil conditions. The substrate was sculpted with three “burrow pits” for depth variability to promote a “hemi-marsh” condition, with equal



areas of open water to emergent vegetation. Naturally occurring heavy clay soil, reclaimed from the burrow pits, was shaped into three metre wide berms to contain and direct flow. At the exit, a new elevated culvert and roadway was constructed one metre above the previous level. By its completion in October, a two hectare (5 acre) wetland was taking shape. The total construction cost was less than CAD\$30,000.

Volunteer youth from the OMNR's Stewardship Ranger Program descended on the new wetland in the spring of 2011, inoculating the wetland with plugs of bulrush, sedges, bur-reed and arrowhead. Soon though, nature, the silent partner, began to take over. Dormant seed banks stirred, giving rise to lush, robust stands of cattail. It was as if a wetland was always there, just waiting for the opportunity to spring forth. And with a much greater inflow than expected, the new wetland is permanently inundated throughout the year.

Before long, nature provided the tenants for the new wetland. By May, marsh wrens could be heard trilling in concert with the red-winged blackbirds, while spring peepers and chorus frogs joined in. New arrivals continued with great blue herons, spotted sandpipers, and numerous waterfowl species along with painted turtles, gray tree frogs and green frogs. In 2012, the Rangers returned to construct a sand/gravel nest area for snapping turtles. As if on cue, the following spring the first resident snapper was caught on camera laying her eggs in the new nest area. An observation platform was constructed overlooking the wetland so that staff could meet these new residents.

This endeavour has shown an ideal blend of creativity, cost-effectiveness, partnership, and cooperation. Manipulating existing conditions took advantage of drainage, topography, and soil conditions. Using in-house resources and volunteers as much as possible minimized the installation cost. In effect, the table was set for the main silent partner to take over, nature. The emergence of vegetation followed by wildlife transformed a relatively sparse habitat into a vibrant and active wetland area. The returns in terms of community goodwill and employee engagement have been tremendous and show that, collectively, small scale projects, whether wetlands, woodlands, or grasslands, can have a regional, provincial, or global impact.

OPG's efforts have been recognized by Nanticoke's nomination in 2013 for the prestigious "Corporate Habitat of the Year" award and as a finalist for the 2013 "Wings over Wetlands" award by the Wildlife Habitat Council. The WHC is an international certification body for wildlife stewardship on corporate lands. The real recognition though comes through the realization that, long after Nanticoke Generating Station ceases to produce electricity, the wetland and other habitat stewardship projects will continue to contribute to conserving biodiversity in Ontario. This "green legacy" will add to OPG's Nanticoke Generating Station's proud legacy of supplying power to the people and the economy of Ontario. ♡



COURTESY ONTARIO POWER GENERATION



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