

A photograph of a weathered wooden sign with red-painted text, mounted on a barbed wire fence. The sign is secured with metal brackets and bolts. The background shows a blurred landscape with bare trees and a clear sky. The sign's text is arranged in three lines: 'DANGER-OPEN HOLE' at the top, 'PRIVATE PROPERTY' in the middle, and 'NO TRESPASSING' at the bottom. The wood grain of the sign is clearly visible.

DANGER-OPEN HOLE
PRIVATE PROPERTY
NO TRESPASSING

A warning sign is posted outside a gold mine south of Marathon, Ontario. One gram of gold is the product of about one tonne of gold-bearing material.

M I N E

F I E L D S

Ontario's antiquated legislation allows the mining industry to stake claims almost anywhere and operate without full environmental assessments. Responding to the demands of First Nations and conservation groups like Ontario Nature, Premier Dalton McGuinty promised (again) to overhaul the Mining Act. Will *this* promise be kept?

Text and Photography by Conor Mihell

On a sunny, late April day, Catherine Bayne hopscotches her way along a steep and rocky portion of the northeastern shore of Lake Superior. I follow behind, balancing unsteadily on the wave-washed rocks; at the very least, a slip would mean an icy swim. Bayne seems unaware of the danger. Her eyes sparkle in the sunlight as she admires the rugged beauty of the coastline.

"It doesn't take someone with a geology degree to be able to tell that this place is special," says Bayne, who owns 310 hectares of land about 100 kilometres northwest of Sault Ste. Marie. "Just look at all the colours and textures in the shoreline. There are sedimentary, igneous and metamorphic rocks side by side."

Bayne and her partner, George Browne, live off the grid and telephone-free on a rugged, hilly piece of northeastern Ontario they call BayNiche Conservancy. Running water comes from a garden hose that diverts some of the flow of a stream, and drinking water is scooped from a spring. Their homestead is decidedly rustic and isolated – the nearest neighbour lives eight kilometres away.

BayNiche was not always so peaceful. Up until Bayne bought the property in 1986, prospectors had dug and explored on two separate sites. The surrounding area has been the site of ongoing prospecting and commercial mining activity for more than 100 years. Parts of an 1840 copper mine lie hidden along the coastline adjacent to Bayne's property, and a 60-year-old headframe atop Canada's first uranium discovery stands precariously 10 kilometres to the north. Ironically, the saving grace for BayNiche is that since the land is patented, or designated, for mining, Bayne can own its mineral rights (see "Is your property safe?" page 23) by paying an annual mining tax

of \$4 per hectare, which amounts to \$1,243 per year. If she stops paying that tax, however, she forfeits those rights to the Crown. As difficult and stressful as this is for her, given her meagre income as a photographer, it is worth every penny to keep her property free of prospectors.

Unlike Bayne, the majority of rural Ontario landowners are completely unaware that their property is fair game to anybody hoping to strike the motherlode. The Ontario Mining Act, passed in 1892 as the Mines Act and held under the jurisdiction of the Ministry of Northern Development and Mines (MNDM) since 1985, enshrines the right of "free entry": two small but earth-shattering words that give prospectors access to most of Ontario's land mass and the power to stake claims and undertake exploration on private and Crown land, without consulting property owners or the public, without regard for First Nation treaty rights and without weighing the benefits of mining versus other land uses, such as conservation, or considering the impact on the local ecology.

With such carte blanche legislation, it is no wonder that Ontario is a mining stronghold. The province produced \$9.3 billion worth of minerals in 2006, more than any other jurisdiction in Canada. According to the Ontario Prospectors Association, 41 mines are currently in operation and more than 800 exploration projects are ongoing. As of July 14, 2008, 44,504 mining claims had been filed with the provincial mining recorder, the MNDM department responsible for handing out land tenure. The amount of land staked for mining interests by these claims totals nearly 54,000 square kilometres – about 6 percent of the province's land base.

"The province assumes that mining is the best use of land,"



Above: The barren, open-pit maw of Algoma Ore Division's abandoned iron mine is the legacy of nearly a century of mining in Wawa

says Marilyn Crawford, a member of the steering committee of the Bedford Mining Alert, a Kingston area advocacy group. "This old-fashioned, colonial mindset dates back to when the province was trying to populate the north and mining was done with picks and shovels. Today, it amounts to giving our land away."

Bolstered by skyrocketing metal prices and high demand for diamonds, the mining sector is riding a wave of prosperity. Prospectors with an eye for gold, silver and copper have staked claims on the Crown land surrounding Bayne's property and throughout northern Ontario, and high uranium prices have brought the abandoned mines of Elliot Lake to the brink of revival. The boom has expanded to the James Bay Lowlands region, where 2,316 claims were hurriedly staked in the six months following last fall's provincial election, when the Liberal government vowed a modernization of the Mining Act; according to MNDM statistics, this amounts to over 30 percent of all claims that are current in the Far North. And, as with prospecting and mineral exploration, the development of large-scale mines, like De Beers Canada's Victor mine west of James Bay, continues to pass below the radar of comprehensive environmental assessments.

This flagrant disregard for overall environmental impacts worries many people. Many First Nations communities across the province are calling for a mining moratorium until the provincial legislation is reviewed. Ontario Nature and more than 30 other environmental and human rights organizations back this position, as does Gord Miller, the Environmental Commissioner of Ontario, who encouraged strategic land-use planning in the pristine northern region and modern reforms to the province's mining regulations in his 2007 annual report, released last December.

Certainly, it is disturbing to hear the MNDM's rationale for having so little regard for land rights or the effects of mining on habitat. "The purpose of the Mining Act is first to encourage prospecting and development and second to protect the environment through rehabilitation," says Tony Scarr, the MNDM's acting provincial mining recorder. "The role of the MNDM's provincial recorder's office is to issue land tenure, not to carry out exploration or permit mining activities. We look after the conveyance of land from one user to the next." In other words, government is effectively distanced from what mining companies do, an archaic mandate reflecting the fact that, at 116 years old, the Mining Act is one of the longest-standing pieces of legislation.



Left: Warwa’s iron mines have been closed for a decade, leaving behind a 20,000-hectare treeless zone. **Right:** Catherine Bayne pays the province more than \$1,000 a year so that BayNiche Conservancy, 310 hectares of mixed forest and small streams, is protected from claim staking and mineral development

“Through this ancient act, the Ontario government is supporting an industry that imposes massive impacts on the environment,” says Jennifer Baker, Ontario Nature’s boreal outreach coordinator. “We need new policy that offers a comprehensive assessment of all environmental and social values.”

Marilyn Crawford got a rude awakening to the realities of the existing policy in 2001, when a prospector staked a claim on her cottage property near Kingston. She filed a dispute to challenge the prospector’s mining claim and has been active in the lobby to reform mining legislation ever since. “It was unfathomable to me that someone could just walk onto private property and stake a claim, much less come in with heavy equipment to explore for minerals with only 24 hours’ notice to the property owner,” Crawford says, admitting she “got lucky” when the claim on her property was abandoned.

Anyone can stake a mining claim in much of Ontario on land open to staking as long as the person is at least 18 years of age and purchases a \$25.50 prospector’s licence, which must be renewed every five years. While Scarr likens the MNDM provincial mining recorder office’s role in the mining process to that of a real estate agent, in practice the government acts more like a clearing house.

Once a claim is staked and reported to the MNDM, the prospector has an exclusive right to explore it for minerals. The holder must put \$400 of “assessment” work into each 16-hectare claim unit per year (the first year is free) and, in the case of Crown lands, the MNDM has no right to refuse to lease the surface rights should the prospector decide to further explore the mineral potential of a claim. On patented mining land, such as Bayne’s property on Lake Superior, surface

TYPES OF MINES

Open-pit: Mineral deposits that are found close to the surface are accessed by removing massive amounts of overburden – sometimes even entire mountaintops. The process creates a crater, frequently of vast proportions. The largest of six pits at the abandoned Adams iron ore mine, located near Kirkland Lake in northeastern Ontario, is more than 1.6 kilometres in diameter and 180 metres deep. The environmental impacts of active open-pit mines, like De Beers’ Victor diamond mine in the James Bay Lowlands, stem from the fact that operations usually extend below the water table and require constant draining, which alters hydrology and pollutes surrounding waterways.

Underground: Most of Ontario’s gold, nickel, cobalt, copper, zinc and platinum reserves are buried deep in the earth’s mantle and are accessed by shaft mining techniques. North America’s deepest mine is located in Timmins, where Xstrata’s Kidd mine extracts copper and zinc at depths of more than 2,600 metres. While underground operations are less destructive than open-pit mining, the process still produces toxic waste materials that must be stored in tailings ponds on the surface.

Quarry: This type of open-pit mine produces aggregates – gravel-like mixes of crushed bedrock, such as limestone, basalt or shale – that are used in the construction of highways and buildings. Proponents apply for a licence to quarry under the Aggregate Resources Act, legislation that is separate from the Mining Act and managed by the Ministry of Natural Resources. The approvals process involves several stages of public consultation and review but still lacks comprehensive environmental assessment.

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and mining rights are bundled together in perpetuity, provided that the landowner pays an annual mining tax to the government, or take out a mining lease.

Despite the obvious ecological concerns about mineral exploration, it is not subject to environmental regulations. Even the rehabilitation of an exploration site is not mandatory until more than 1,000 tonnes of subsurface rock is excavated or 10,000 square metres of vegetation and topsoil is removed from a claim. "Companies are not required to report all the exploration work they do," Crawford says. "We have no idea of the number of exploration sites that haven't been restored because nobody is watching."

According to MNDM statistics, about one in every 10 mining claims will advance to the exploration stage. But only about one in 1,000 exploration projects will develop into an operating mine. Joan Kuyek, the past national coordinator of MiningWatch Canada, a national mining-policy watchdog organization, explains that the relatively large number of exploration projects can be tied directly to the huge federal and provincial tax incentives for investing in junior mining companies. Investing in juniors is encouraged by a series of tax breaks, including 15 percent federal and 5 percent provincial credits. "The tax system treats exploration as a separate industry from mining," she says. This makes exploring for new sources of raw materials far more appealing economically than recycling or conserving existing supplies. "The end result is enormously costly to taxpayers and the environment. It is completely unsustainable."

The impact of the mining industry is obvious in my hometown of Wawa, located 230 kilometres north of Sault Ste. Marie. A brief gold rush first brought miners here in the late 1800s; shortly afterwards, Algoma Ore Division's (AOD) iron mines formed the backbone of the community. The last iron ore was blasted from the earth in 1998, but AOD's legacy remains in the form of a 40-kilometre-long, 20,000-hectare treeless zone – the result of atmospheric sulphur dioxide fallout from the processing of ore into iron. A Ministry of the Environment (MOE) study showed that soil levels of arsenic, another by-product of processing, in the area were up to 50 times the MOE guidelines and that the risk of cancer to Wawa residents as a result of exposure to arsenic was 100 times the level set in provincial standards. (Further studies concluded that because the arsenic in Wawa area soil was "very insoluble and therefore biologically unavailable," the risk to human health was "very low.")

Similar trends have been observed in communities across Ontario, says MiningWatch's Kuyek, with nickel- and lead-contaminated soils being reported in Sudbury and Port Colborne. In the northeastern Ontario town of Cobalt, the medical officer of health cautioned against swimming and fishing in area lakes in 2005 and 2007 because of arsenic concentrations that were more than seven times higher than those set in the provincial water quality objectives.

An even bigger concern is the estimated 650 million tonnes of waste materials the Canadian mining industry generates each year. Kuyek says that less than 1 percent of most ore bodies is valuable metal. For instance, one gram of gold is the product of about one tonne of gold-bearing

material – besides the one to three additional tonnes of "waste rock" that must be removed to access the ore and is disposed of in mountainous heaps. Chemical- and heavy metal-laced sludge ponds of fine-grained mine waste known as "tailings" comprise about 25 percent of mineral extraction by-products. Tailings ponds may contain certain types of metals that can leach deadly acidic toxins into the water table and surrounding waterways and wetlands. Since about 20 percent of mining waste in Canada is acidic and leaching may not occur for decades after the closure of a mine, Kuyek says that tailings ponds require costly monitoring and treatment long after a mine is abandoned.

What's more, with Canadian mines using upwards of two billion cubic metres of water per year, it is no surprise that MNDM case studies demonstrate that 70 percent of operations contaminate surface water and 65 percent pollute groundwater. For its Victor mine in the James Bay Lowlands, De Beers received permission to pump 10,000 cubic metres of groundwater from below the water table in the mine pit into the Attawapiskat River each day over the course of the mine's 12-year life span. All told, environmentalists estimate that the Victor mine will impact 260,000 hectares of wilderness. Moreover, the draining process could release methyl mercury, a dangerous neurotoxin that bioaccumulates in the aquatic food chain as revealed in a 2007 study by University of Ottawa ecotoxicologist Dr. David Lean. Ontario Nature's Jennifer Baker explains that "the problems associated with flooding vast areas of peatlands for hydroelectric projects also applies to draining [them] for mines. Both processes free up mercury that's been harmlessly stored in the soil and convert it to a toxin that contaminates fish and threatens human health."

Other environmental impacts include tailings spills, such as the 1990 accident near the northeastern Ontario town of Matachewan that dumped 150,000 cubic metres of gold-mining by-product, including high concentrations of toxic lead into the Montreal River. At the Red Lake gold mine in northwestern Ontario, Kuyek says, 20,000 tonnes of underground arsenic trioxide is slowly seeping into the surrounding groundwater.

I often backcountry ski in the treeless zone around Wawa, carving telemark turns on the slopes and kicking and gliding across the lakes of the windswept and Arctic-like landscape. Since AOD's operations ended, restoration work has not extended beyond removing equipment, dismantling the processing facility and rerouting runoff from the mounds of waste rock surrounding the processing site. According to Brennain Lloyd, the coordinator of Northwatch, a coalition of environmental and citizen organizations in northern Ontario, AOD's site is but one of a legion of shoddily rehabilitated former mining sites that remain scattered across the province. The Kam Kotia mine near Timmins, which ceased operations in 1972, has been the most costly to taxpayers. Once complete in 2009, the rehabilitation of Kam Kotia's acidic tailings will have cost the province an estimated \$60 million, Lloyd says.

She maintains that the solution to decreasing the costs of abandoned mines is to comprehensively assess the environ-



Left: Teck Cominco and Barrick Gold's mill at the Williams Mine, located in the Hemlo gold fields near Marathon, processes 10,000 tonnes of ore-bearing rock per day.

Right: The mining process begins with claim staking. More than 44,500 claims like this one are staked across the province

mental, social and economic impacts of mining before projects are allowed to begin. "The way it works right now is that there are very few decision points where it's possible to take a comprehensive look at the project," Lloyd says. "If all costs of mining were considered, including environmental and health impacts, and companies were required to prove they could pay the bill of remediation up front, I'm sure we'd see much less development and fewer abandoned mines."

Perhaps the greatest shortcoming of Ontario's mining policy is that it has no provisions for measuring the cumulative environmental impacts of development. Because the jurisdiction is split between Ottawa and the provinces, mines are subject only to a piecemeal review, where federal agencies, such as Fisheries and Oceans Canada, and provincial legislation, such as the Ontario Water Resources Act, guides the assessment of individual components of a proposal. As a result, explains Anastasia Lintner, a staff lawyer and economist at Ecojustice Canada (formerly Sierra Legal Defence), a national nonprofit environmental law organization, "no one does an overall examination of a project."

The situation is further confounded in Ontario by the fact that the MNDM has been historically protected from environmental assessment legislation. Lintner says that before the Ontario Environmental Assessment Act came into force, the government "wanted to allow ongoing [mining] projects to be able to continue while they went through the process of determining the criteria of class environmental assessments." Exemptions for mining development were first put in place in the early 1980s and have been extended ever since, with the current three-year term set to expire in June 2009.

Lintner believes that the problem of split jurisdiction and piecemeal assessments could be overcome with joint panel reviews, in which federal and provincial agencies and the mining proponent agree to a review of potential environmental impacts by an independent panel of experts, including, she says, "an overall assessment of whether or not it's worth it." In 2007, for example, a joint review panel in British Columbia rejected a proposal for a copper and

gold mine, the first mine proposal turned down by an environmental assessment in Canadian history.

This April, Dalton McGuinty renewed his promise to review the Mining Act and told reporters that Ontario's mining policy does not mesh "with our values and expectations at the beginning of the 21st century." A press release issued by the premier's office in July promised that new mining legislation would be introduced "in the upcoming session" and "new rules would be in place for later next year."

That is welcome news to environmentalists like Bayne,

IS YOUR PROPERTY SAFE?

Most property owners in Ontario mistakenly think that when they buy a plot of land, it is entirely theirs. But sometimes they own only the "surface" rights, meaning they have no control over the treasures on their property. Typically, the province owns the underlying geology, or "mineral" rights; under the Mining Act, licensed prospectors have the right to enter private rural or cottage property and claim the mineral rights without notifying the owner.

An individual has little recourse if a legitimate prospector or mining company stakes a claim; you can, though, arm yourself with knowledge of your property rights – however limited – under the Mining Act. First, to find out who owns the mining rights on your property, perform a title search at your local land registry office. Then, to find out if any claims have been staked on the property by prospectors, call the Ministry of Northern Development and Mines (MNDM) provincial recording office at 888-415-9845. Visit the websites listed on page 42 for a summary of the legislation and how it affects landowners, as well as to learn what you can do to dispute a mining claim and how you can stake a mining claim to protect your land from prospectors. Ontario Nature, Bedford Mining Alert, MiningWatch Canada, the Federation of Ontario Cottagers' Associations and the Canary Institute, a national nonprofit mining, environment and health research agency, are all lobbying for an overhaul of the Mining Act.

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FIRST NATIONS RIGHTS VS. MINING RIGHTS

In 1849, Ojibwa chiefs Shingwauk and Kinebonegojig got tired of waiting for the British government to do something about mining companies abusing First Nation land and stormed the Quebec and Lake Superior Mining Company's operations on Lake Superior, 100 kilometres northwest of Sault Ste. Marie. The raid landed the Aboriginal leaders in a Toronto jail, garnered political attention and resulted in land treaties spanning much of northern Ontario.

As much as treaty requirements, such as the duty to consult, accommodate and reconcile First Nation concerns, have bolstered Aboriginal rights in Canada, mining still instigates conflict. Ontario's free-entry system does not recognize the fact that treaties govern all Crown land in Ontario. This means that the vast majority of mining claims staked across the province affect Aboriginal groups; while not all claims provoke quarrels, those that have done so emphasize the contradiction between treaty rights and mining policy.

In March, six members of the Kitchenuhmaykoosib Inninuwug (KI) First Nation, a Treaty 9 signatory with land claims covering more than 22,000 square kilometres of northwestern Ontario, were arrested and jailed for peacefully protesting the Toronto-based mining company Platinex's plans to explore for platinum. The Ontario Superior Court of Justice sided with Platinex, ruling that KI was in contempt of court for refusing to obey a previous legal decision to allow Platinex access to KI land. According to Jacob Ostaman, KI's director of lands and environment, removing overburden and drilling for samples would disrupt pristine, intact watersheds and possibly contaminate Big Trout Lake. After it accepted Platinex's mining claims, Ostaman says, the Ontario government ignored KI's environmental concerns. Under the Mining Act, however, Platinex is not required to report exploration plans to the government or First Nations.

"There has to be a meaningful consultation process," says Ostaman. "Right now, the government just tells us what's going to happen."

Last fall, the mining company sued KI for \$10 billion for denying access to its mining claims; the band has since paid around \$750,000 in legal fees. Similarly, an ongoing dispute in eastern Ontario landed Ardoch Algonquin First Nation leader Robert Lovelace in jail, with a fine of \$25,000 for opposing uranium exploration on traditional lands. In April, in response to widespread protests of the sentencing of members of these First Nations and criticism of the unconstitutional framework of the Mining Act, Premier Dalton McGuinty maintained that the government had no influence over the court's decisions but is working to modernize mining policy.

Until that happens, environmental and human rights organizations are siding with First Nations groups, including the Nishnawbe Aski Nation, which represents 49 First Nations communities across northern Ontario, to call for a mining moratorium.

"It's impossible to keep up with the current pace of exploration," says Julee Boan, Ontario Nature's boreal conservation coordinator. "A moratorium on any new mineral exploration is the best way to ensure that comprehensive land-use planning can take place."

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whose more than 20 years of protecting her Lake Superior property from prospectors have made her skeptical that reform will ever come. Crawford is hopeful, too, but not relenting in her activism. While she wants the MNDM to commit to wholesale changes of the Mining Act, including the abolishment of free entry, incorporation of comprehensive environmental assessments at all stages of the mining process, and mandating effective rehabilitation, she continues to plug away at the smaller details of mining policy. Under the current system, any proposed changes to mining legislation must first go through the Minister's Mining Act Advisory Council, many of whose members are mining industry representatives who are selected for the council by invitation only from the Minister.

Still, demands for changes to the Mining Act are getting stronger. In an April letter to McGuinty, 20 high-profile Canadians, including author Margaret Atwood and human rights activist Stephen Lewis, urged the premier to expedite changes to mining policy. In another letter to the premier in May, U.S. environmentalist Robert F. Kennedy Jr. scolded the province's hesitant response to the plight of Aboriginal leaders from the Kitchenuhmaykoosib Inninuwug reserve, in northwestern Ontario, and Ardoch Algonquin First Nation, near Kingston, who were jailed in March for opposing mineral exploration in their traditional lands. (See "First Nations rights vs. mining rights," this page.)

The public will no longer accept the assumption that mining is the best use of the province's land base, says Ontario Nature's Baker. "Right now, mining companies don't even bother to say that they're environmentally friendly. They're all-powerful and they've always had the government's support. But attitudes are changing," she insists. "We want to make sure that a review of the Mining Act is open [and] transparent, and has solid public consultation along the way." For Baker, the glitter of diamonds and gold cannot compare with the simple pleasure that will come when the ground beneath our feet is truly ours to venerate. 🐦

Conor Mihell is a freelance environment and adventure travel writer based in Wawa, Ontario.

TO LEARN MORE ABOUT MINES

[Ontario Nature](http://OntarioNature.org)

www.ontarionature.org

[Bedford Mining Alert](http://BedfordMiningAlert.ca)

www.bedfordminingalert.ca

[Canary Institute](http://CanaryInstitute.ca)

www.canaryinstitute.ca

[Federation of Ontario Cottagers' Associations](http://FederationofOntarioCottagersAssociations.ca)

www.foca.on.ca

[MiningWatch Canada](http://MiningWatchCanada.ca)

www.miningwatch.ca

[MNDM Mines and Minerals Division](http://MNDM.MinesandMineralsDivision.ca)

www.mndm.gov.on.ca/mines/default_e.asp