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ABBREVIATIONS

Legislation

BCA *Building Code Act, 1992*
CWA *Clean Water Act, 2006*
DCA *Development Charges Act, 1997*
EAA *Environmental Assessment Act*
EBR *Environmental Bill of Rights, 1993*
EPA *Environmental Protection Act*
ESA *Endangered Species Act, 2007*
FLSA *French Language Services Act*
FWCA *Fish and Wildlife Conservation Act, 1997*
GEA *Green Energy Act, 2009*
GEGEA *Green Energy and Green Economy Act, 2009*
HTA *Highway Traffic Act*
IFPA *Intervenor Funding and Participation Act*
ORMCA *Oak Ridges Moraine Conservation Act, 2001*
OWRA *Ontario Water Resources Act*
PPCRA *Provincial Parks and Conservation Reserves Act, 2006*
PSSDA *Public Sector Salary Disclosure Act, 1996*
SARA *Species at Risk Act, 2002*
SDWA *Safe Drinking Water Act, 2002*
TSSA, 2000 *Technical Standards and Safety Act, 2000*

Provincial Ministries

EDU Ministry of Education
MCS Ministry of Consumer Services
MMAH Ministry of Municipal Affairs and Housing
MNDM Ministry of Northern Development and Mines
MNR Ministry of Natural Resources
MOE Ministry of the Environment
MOF Ministry of Finance
MTCU Ministry of Training, Colleges and Universities
MTO Ministry of Transportation
OMAFRA Ontario Ministry of Agriculture, Food and Rural Affairs

Terms and Titles

ADF Average Daily Flow
ADM Assistant Deputy Minister

ANSI Area of Natural and Scientific Interest
AOC Area of Concern
ASAP Anti-Smog Action Plan
BOD biochemical oxygen demand
CA Conservation Authority
CBOD₅ carbonaceous biochemical oxygen demand
CCME Canadian Council of Ministers of the Environment
Class EA Class Environmental Assessment
C of A Certificate of Approval
COSEWIC Committee on the Status of Endangered Wildlife in Canada
CO carbon monoxide
COSSARO Committee on the Status of Species at Risk in Ontario
DAA Delegated Administrative Authority
dBa decibels
DFO Fisheries and Oceans Canada
ECA Environmental Compliance Approval
ECO Environmental Commissioner of Ontario
EMA Enhanced Management Area
ENGO Environmental Non-Governmental Organization
ERT Environmental Review Tribunal
ESDM Emission Summary and Dispersion Modelling
FMP Forest management plan
FMU Forest Management Unit
GHG greenhouse gases
HC hydrocarbons
hp horsepower
HRT hydraulic retention time
IBA Important Bird Area
IEB Investigation and Enforcement Branch
I/M program Inspection and maintenance program
kW kilowatts
LIC Local Improvement Charge
LSPP Lake Simcoe Protection Plan
LTA leave to appeal
m³ cubic metres
mg milligrams
mg/l milligrams per litre
NHA natural heritage assessment
NHA Guide Natural Heritage Assessment Guide
NHRM Natural Heritage Reference Manual
NO_x nitrogen oxides
NSL Noëlville Sewage Lagoon
OBC Ontario Building Code

OCSIA	Ontario Soil and Crop Improvement Association	Objective(s)
OCWA	Ontario Clean Water Agency	REA renewable energy approval
OFAH	Ontario Federation of Anglers and Hunters	SARO Species at Risk in Ontario
OLWR	Ontario Low Water Response	SEV Statement of Environmental Values
O. Reg.	Ontario Regulation	SO₂ sulphur dioxide
ORMCP	Oak Ridges Moraine Conservation Plan	SWH significant wildlife habitat
OWC	Ontario Wildlife Coalition	ToR Terms of Reference
PAPER	Proptery Assessment Payments for Energy Retrofits	TSS total suspended solids
PCBs	polychlorinated biphenyls	TSSA Technical Standards and Safety Authority
PHU	public health unit	US EPA United States Environmental Protection Agency
PM	particulate matter	V volume
PPS	Provincial Policy Statement, 2005	VOCs volatile organic compounds
Preston E&M	Preston Electrical & Mechanical Ltd.	WRT Water Response Teams
PSW	Provincially significant wetlands	
PTTW	Permit to Take Water	
PWQO	Provincial Water Quality	

SECTION 1

ECO REVIEWS OF SELECT DECISIONS ON ACTS, REGULATIONS, POLICIES AND INSTRUMENTS

SECTION 1: ECO REVIEWS OF SELECT DECISIONS ON ACTS, REGULATIONS, POLICIES AND INSTRUMENTS

Review of Posted Decision:

1.1 Agriculture Wildlife Conflict Strategy

Decision Information

Registry Number: 011-2677

Proposal Posted: February 25, 2011

Decision Posted: August 5, 2011

Comment Period: 45 days

Number of Comments: 244

Decision Implemented: July 1, 2011

Keywords: agriculture; compensation; coyotes; wildlife

Overview

In 2010, the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) began a process to develop an Agriculture-Wildlife Conflict Strategy, including an update to its existing compensation program for damages to livestock, poultry, honey bee colonies or beehive-related equipment due to wildlife.

The resulting Agriculture-Wildlife Conflict Strategy consists of several components, including:

- An update and renaming of the *Livestock, Poultry and Honey Bee Protection Act* to the *Protection of Livestock and Poultry from Dogs Act*;
- A new regulation under the *Protection of Livestock and Poultry from Dogs Act* that outlines the maximum amounts farmers can be compensated for specific types of livestock;
- Establishment of a stakeholder working group to continue developing policies related to agriculture-wildlife conflict, including best management practices; and
- The Ontario Wildlife Damage Compensation Program ("the Compensation Program"), which updates compensation to market value for eligible farmers whose livestock or poultry have been injured or killed, or whose bee colonies have been damaged, as a result of wildlife.

The ECO's review of the Strategy focuses on the Compensation Program.

Background

A significant amount of wildlife habitat in southern Ontario is on privately-owned agricultural lands. Agricultural operations are compatible with many types of wild species and habitats; however, wildlife damage to livestock and crops can be a concern for Ontario farmers. Some typical wildlife-related problems for Ontario farmers include: predation on livestock by coyotes; crop damage by birds, insects, deer and other mammals; contamination of grain storages by bird droppings; and risk of disease transmission to livestock from wildlife. However, many prevention techniques can be used to reduce conflict, including: fences and barriers to keep animals out; scare techniques; repellents to make food sources or perimeter fences taste or smell bad; planting lure crops away from those that need protection; removing food sources where possible; encouraging natural predators; and hunting.

Wildlife damages were estimated to cost Ontario farmers over \$41 million in 2009; this value was extrapolated from data collected in 1998. The 1998 survey showed that the largest portion of estimated losses were in field crops (corn, soybeans, wheat and forages), amounting to \$26 million, followed by fruit crop losses at \$11 million, vegetable losses at \$2 million, and losses to beef and sheep at \$1 million each. No updated study is available that comprehensively quantifies the current extent of damage to agriculture due to wildlife in Ontario. OMAFRA estimates that predation has killed or injured almost

13,700 livestock animals in Ontario since 2009 and that the total value of compensation claims paid for injured or killed livestock or damaged bee colonies increased from approximately \$750,000 in 2002/2003 to \$1.56 million in 2010/2011 (see Figure 1). These data exclude kills or injuries caused by dogs, which can be a significant source of livestock predation.

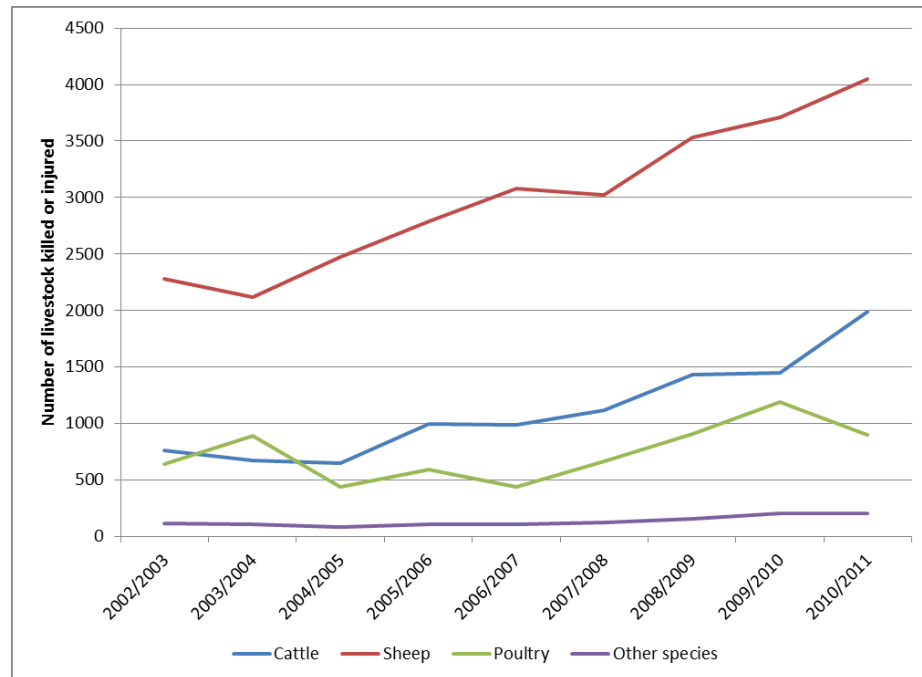


Figure 1. Number of livestock animals injured or killed by coyotes, wolves and bears and compensated through OMAFRA programs, 2002/2003 to 2010/2011. “Other species” include: fur-bearing animals, goat, horse, swine and rabbit. Source: OMAFRA.

OMAFRA’s Agriculture-Wildlife Conflict Strategy

OMAFRA initiated the development of an Agriculture-Wildlife Conflict Strategy in 2010. In early 2010, the ministry made major revisions to its *Livestock, Poultry and Honey Bee Protection Act*, removing most references to wildlife and renaming the statute *Protection of Livestock and Poultry from Dogs Act*. OMAFRA also posted a discussion paper on an Agriculture-Wildlife Conflict Strategy on its website, noting that the proposed strategy aimed to: promote producer awareness, through developing and enhancing information resources available; improve programs/tools for producers; and improve cooperation between OMAFRA and MNR, in order to provide a coordinated response to agriculture-wildlife conflict issues. The ministry met with a number of stakeholders to consult on the draft discussion paper.

In February 2011, OMAFRA posted a proposal notice on the Environmental Registry, with an updated version of the discussion paper, for public comment. Similar to the version posted on the ministry’s website, the updated discussion paper included a number of different policy proposals. For example, as part of its strategy to improve awareness and information resources for producers, OMAFRA suggested it would pursue additional opportunities for outreach via Ontario’s stewardship programs and initiatives, and would explore the expansion of predation content for future Environmental Farm Plan workshops. The ministry further suggested it would explore the development of a networking service to link farmers with experienced hunters and trappers as a tool for wildlife management, and explore improvements to its existing Deer Harassment/Removal Authorization process.

The updated discussion paper also described proposed changes to its wildlife damage compensation programs for livestock. It noted that the list of eligible species would be expanded to include sheep, cattle, horses, donkeys, mules, rabbits, hogs, goats, elk, poultry, deer, bison, fur-bearing animals, llamas,

alpacas, ostriches, emus, and rheas. It also noted that the list of predatory species under the program would be expanded. It noted that maximum compensation values per livestock unit would be increased over the current program in some situations and that the methodology used to determine maximum values of compensation would be developed by an agriculture-wildlife conflict working group.

When the decision notice was posted on the Registry, the ministry posted only its updated Compensation Program. It did not discuss the other elements of its agriculture-wildlife conflict strategy, which had been described in the discussion paper.

Ontario Wildlife Damage Compensation Program

The Ontario Wildlife Damage Compensation Program, which provides compensation to eligible farmers whose livestock or poultry have been injured or killed, or whose bee colonies have been damaged, as a result of wildlife, came into effect July 1, 2011. The Compensation Program was authorized by an Order in Council and is part of Growing Forward – a joint federal, provincial, territorial initiative. If damage to a livestock species is caused by a dog, farmers must follow the separate process set out in the *Protection of Livestock and Poultry from Dogs Act* (O. Reg. 329/11 under the Act sets out maximum compensation rates for livestock and poultry injured or killed by dogs; this Act is not prescribed under the *EBR*).

OMAFRA's Ontario Wildlife Damage Compensation Program Guidelines sets out the process for claiming compensation for wildlife damage. Farmers must contact their local municipality after discovering injury or death to livestock or poultry believed to be due to wildlife; an appointed valuer will investigate and prepare a report for the municipality. Municipalities are responsible for paying applicants' claims in accordance with Compensation Program guidelines. OMAFRA then reimburses municipalities for eligible claims, with an additional \$30 to the municipality per claim for administrative costs incurred. For bees or beehive-related equipment, or in areas without municipal organization, OMAFRA pays claims directly to applicants.

The Compensation Program guidelines designate eligible livestock and poultry species, as well as wildlife species. The guidelines also specify maximum compensation amounts for each livestock and poultry species, as well as for bee colonies and beehive-related equipment. The program will pay 100 per cent of the assessed value of the livestock, poultry, bee colonies or beehive-related equipment up to these maximum values.

Implications of the Decision

Species Eligible for Compensation Updated

Lists of eligible farmed species and wildlife species have been updated through the new Compensation Program (see Table 1). Under OMAFRA's previous compensation system (under the *Livestock, Poultry and Honey Bee Protection Act*), claims could be paid for damage to cattle, fur-bearing animals, goats, horses, poultry, rabbits, sheep and swine. Under the previous program, "fur-bearing animals" included fisher, fox, lynx, marten, mink and raccoon; and "poultry" included game birds where kept pursuant to a licence under the *Fish and Wildlife Conservation Act, 1997 (FWCA)*.

The new Compensation Program now explicitly lists fur farm species eligible for compensation: rather than simply stating "fur bearing animals," the list now includes mink, fox, raccoon, fisher, marten and lynx. These species are consistent with those included as farmed species under the *FWCA*, but it is unclear in practice to what limited extent species other than mink and fox are actually farmed for fur in Ontario. Under OMAFRA's previous compensation programs, there were very few claims for fur-bearing animals: virtually no claims were made during the eight-year period from 2002/2003 to 2009/2010 and only 26 animals were compensated for in 2010/2011.

The new program also explicitly lists game birds (in Schedule 3 of the *FWCA*) as poultry, including some native species: northern bobwhite, ruffed grouse, spruce grouse, sharp-tailed grouse, rock ptarmigan and willow ptarmigan. Although the extent to which these species are farmed in Ontario is unknown, there are

a number of concerns associated with the practice of farming species within their native range, including: the potential for introduction and transfer of disease or parasites to wild populations; genetic concerns if domesticated or captive-bred individuals interbreed with wild individuals; and an increased potential for poaching or other illegal activities to occur (encouraged by a legal market). The explicit inclusion of these species for compensation may give the impression of acceptability of this practice.

The program now includes some non-traditional farmed species (see Table 1(a)), such as alpaca, llama, ostrich and emu. The new program does not provide compensation for guardian dogs killed or injured by wildlife.

The list of predatory wildlife species has been greatly expanded from the previous program, which only provided compensation for agricultural damage caused by dogs, coyotes, wolves or bears (see Table 1(b)). The new predator list includes 15 more species, including hawks, racoons, and even cougars (for more information on cougars in Ontario, please see Part 3.4 of the ECO's 2010/2011 Annual Report). The expansion of the wildlife list only expands the ability of producers to successfully file compensation claims; it does not give farmers or landowners any increased ability to legally kill these predatory species.

Table 1. a) Livestock and Poultry; and b) Wildlife Species Eligible for Compensation Under the Ontario Wildlife Damage Compensation Program. (Source: OMAFRA, Ontario Wildlife Damage Compensation Program.)

a) Farmed species		b) Wildlife species	
Livestock species (includes fur farm species)	Poultry species	Damage to livestock or poultry	Damage to beehives, bee colonies and beehive-related equipment
Cattle	Chicken	Coyote	Bear
Sheep	Turkey	Wolf	Skunk
Goat	Duck	Bear	Raccoon
Swine	Goose	Fox	Deer
Horse	Northern bobwhite	Fisher	
Rabbit	Ruffed grouse	Cougar	
Bison	Spruce grouse	Lynx	
Elk	Sharp-tailed grouse	Bobcat	
Deer	Gray (Hungarian) partridge	Raven	
Alpaca	Ring-necked pheasant	Eagle	
Llama	Rock ptarmigan	Hawk	
Ostrich	Willow ptarmigan	Crow	
Emu	Wild turkey	Turkey vulture	
Rhea		Weasel	
Donkey		Raccoon	
Mule		Marten	
Mink		Mink	
Fox		Elk	
Raccoon			
Fisher			
Marten			
Lynx			

Increased Compensation Amounts

The new Compensation Program increases the maximum amounts provided to farmers to compensate for losses of livestock (including fur farm animals), poultry or bee colonies to current market value. Although municipalities initially pay producers for claims, OMAFRA reimburses municipalities for the full cost of the claim up to the maximums set out in the guidelines; funds are provided under a cost-share program with the federal government.

However, it is unclear from the Compensation Program guidelines how maximum values were determined for particular species; for example, how the maximum payment for a farmed lynx was set at \$2,000 or a farmed raccoon at \$75. Although OMAFRA stated in its policy proposal that the Agriculture-Wildlife Conflict Working Group would develop the methodology to determine the maximum values of compensation, no rationale was provided. OMAFRA noted that its compensation of 100 per cent of the value of the loss up to prescribed maximums was consistent with its previous program, as well as compensation levels in other provinces such as Manitoba.

Stakeholder Working Group Established

OMAFRA has established an Agriculture-Wildlife Conflict Working Group to provide advice and input on the implementation of the Agriculture-Wildlife Conflict Strategy. OMAFRA has indicated that the group is continuing to discuss and explore policy options (for example, best management practices for agriculture-wildlife conflict prevention) outlined in the discussion paper that was posted with the proposal notice.

Upcoming Review of Compensation Program

Under the Order in Council, OMAFRA is required to review the Compensation Program two years after its coming into force, as well as at least once every five years thereafter. In the decision posting, OMAFRA notes that “the Government of Ontario is also committed to reviewing the program within two years. This will provide an opportunity for any necessary adjustments to be made.” The Order in Council requires that the primary purpose of the review is to confirm that the program “is continuing to meet its objectives and is otherwise performing on a cost benefit basis.” OMAFRA has not yet determined what metrics it will examine in its review of the program.

As the program is set out in an Order in Council rather than being enshrined in law, there may be less certainty in the long-term continuation of the program. Under the Order in Council, the program can be cancelled if there are insufficient funds appropriated for it to continue; also, the Minister of Food, Agriculture and Rural Affairs may cancel the program if he or she determines it should not continue.

Public Participation & EBR Process

Compliance with the Environmental Bill of Rights, 1993

In making this decision, OMAFRA did not follow conventional practice for posting proposal notices for public comment on the Environmental Registry. The ministry held two rounds of stakeholder consultations on the proposal – in the summer and fall of 2010 – before posting it on the Registry. In October 2010, the ECO sent a letter to OMAFRA, urging the ministry to post a proposal notice on the Environmental Registry for these environmentally significant proposed changes. The ministry subsequently posted a proposal notice on the Environmental Registry in February 2011. (For additional information, please see page 4 of the Supplement to the ECO’s 2010/2011 Annual Report.) The ECO was disappointed that OMAFRA posted this proposal notice only after the ECO urged the ministry to do so and, further, that the ministry’s proposal notice did not contain all the details necessary for commenters to understand the ministry’s intended actions (i.e., creating the Compensation Program).

Public Comments

The ministry received 244 comments from across the province on the proposal notice.

The Ontario Cattlemen’s Association made a number of suggestions, while pointing out gaps and points of concern in the proposal. The organization cautioned that funding for enhancement and development of best management practices should not come from the Compensation Program’s budget. The organization also noted that guardian dogs should be included in the list of livestock eligible for compensation, as donkeys and llamas, which are also used as guardian animals, were included in the list. The organization

also suggested that the government legalize the use of non-lethal cable restraints for coyotes by licensed trappers in order to control coyote livestock predation.

The Ontario Federation of Anglers and Hunters (OFAH) supported the general approach of the proposed strategy, including increased livestock and compensation eligibility and increased emphasis on information and tools for conflict prevention. However, OFAH cautioned OMAFRA in the proposed eligibility for farmed elk and deer under the Compensation Program. OFAH noted that because chronic wasting disease and tuberculosis are more likely to emerge and spread in high-density farming situations, predators and scavengers of these farmed elk and deer could pass the disease on to wild cervids. OFAH characterized this as a biosecurity threat that needed to be addressed, noting that “allowing compensation payments for predation of farmed deer or elk, would, in this regard, prove counter-productive.”

The National Farmers Union supported the concept of enhancing information and resources available to farmers on how to prevent wildlife damage, but also noted that OMAFRA should be consulting farmers directly on the practices that work best. The union made a number of other recommendations including: providing fair market value for animals killed; simplifying the claims process; funding protection measures such as fencing, scare mechanisms and guardian animals, and improving crop insurance programs.

The Ontario Fur Managers Federation expressed support for a year-round hunting season for coyotes, “so that coyotes can be targeted and harvested in the time of year when they have a value and not just discarded as vermin and a nuisance.” The federation noted that it supports the use of a non-lethal, relaxing cable restraint snare, which will avoid accidental deaths of dogs. The federation also noted that it wants the government to start enforcing laws that prohibit dogs from running at large, in order to reduce costs of predation and making it the owners’ responsibility.

The Ontario Sheep Marketing Agency outlined several concerns it had with the proposed program. The agency noted, “MNR needs to document the changes over time in coyote numbers and distribution. A vague idea that coyote numbers are at a peak and may decline in a few years due to mange is not an adequate action plan for managing the population.” Further, the agency noted that using livestock compensation levels as a proxy for measuring provincial predation levels was not appropriate, since more producers are using additional fencing and guard animals, and producers going out of business would reduce predation reporting. The agency stated that “increasing prevention is the first priority for farmers. Adequate compensation, however welcome, can never cover all the losses or the stress put on both farmers and livestock by predation.”

The Ontario Soil and Crop Improvement Association noted that an updated producer survey should be undertaken to identify the actual volume of wildlife damage, evaluate effects of preventative measures, and assess the costs incurred through wildlife damage to evaluate compensation schemes to farmers. The association also expressed support for incentives for wildlife-agriculture conflict abatement or best management practices, noting that “having a sustained, stand-alone incentive program in place would complement the compensation and regulatory tools already in place, and demonstrate willingness by government to recognize there is a societal responsibility to contribute to the cost of on-farm control.”

Some commenters noted that funds should be allocated specifically for best management practices to prevent agriculture-wildlife conflict. One commenter noted that if farmers are expected to take efforts to prevent incidences of conflict, prior to compensation, then funding should be available for education and implementation of best practices.

Several farmers expressed frustration with the introduction of wild turkeys in agricultural areas, particularly in eastern Ontario where the species was not historically found. Commenters noted the damage turkeys were causing to vegetable and berry fields as well as to sugar bush pipelines and appealed to the province for further hunting opportunities for wild turkey. Commenters felt it unfair for producers to have to pay for damages to crops from wild turkey, as the species was introduced by the provincial government.

Many commenters expressed opposition to coyote hunting in Eastern Ontario, arguing that: OMAFRA's strategy should reflect the views of the majority of Ontarians, not only agricultural or hunting interests; livestock losses due to coyote predation are insignificant; the strategy should be based on conflict prevention; and farmers should incorporate loss to predation as a "cost of doing business." Coyote Watch Canada suggested that OMAFRA should examine the potential for predator-friendly certification programs; eliminate baiting of predators with deadstock; and ensure unbiased and transparent implementation of the compensation process to reduce false claims under the program. For more information on contests that encourage coyote hunting in Ontario, please see Section 3.2.1 of this Supplement.

Many farmers wrote in to express support for expanding coyote hunting opportunities to reduce predation on farms. However, others disagreed; for example, a vegetable grower noted that coyotes on the property reduced the number of herbivorous animals such as deer, racoons and groundhogs on the farm, saving money and time in putting up electric fences to keep out these species that cause crop damage.

In OMAFRA's decision notice, posted in August 2011, the ministry stated that the Agriculture-Wildlife conflict strategy followed guiding principles related to protection and promotion of biodiversity. The ministry noted that it was unable to include guardian dogs on the list of eligible species, as they were not recognized under the federal-provincial cost-share program. OMAFRA noted that it is exploring ways to improve production insurance and ways to improve the Deer Harassment/Removal authorization process to better protect crops.

With regard to wildlife management, OMAFRA stated that "Addressing conflicts with wildlife is a shared responsibility. MNR will continue to work with the public, municipalities and partners to help address conflicts with wildlife through community-based solutions." Further, the ministry noted that it would be developing or enhancing public information on preventing and managing conflict, including one-window access for producers for information from both OMAFRA and MNR. The ministry also stated that its Agriculture-Wildlife Conflict Working Group would provide advice and input on the implementation of its strategy; issues extending beyond agriculture would be discussed with a Human-Wildlife Conflict Advisory Group.

Following the decision notice, the ECO received a letter from the OFAH outlining their concerns that OMAFRA had abused the *EBR* consultation process, due to the ministry's lack of previous disclosure that they would include native wildlife species as "eligible livestock." OFAH stated that their previous submission, through the Registry posting, had supported the proposed inclusion of traditional poultry species and game bird species frequently farmed, but "did not, and never would, support the notion of 'farming' wild turkey or species of Ontario grouse and ptarmigan." Similarly, OFAH noted it would not have supported inclusion of native fur-bearing animals as livestock if this had been made clear in OMAFRA's proposal. The OFAH listed a number of concerns with the practice of farming native species. The letter noted that successfully raising native grouse and ptarmigan in captivity is difficult, if not impossible, and the practice would pose a threat to the protection and conservation of native bird populations. The OFAH also stated that the inclusion of both domestic and wild turkeys as poultry "not only blurs, but functionally erases the important distinction" between wild and farmed turkeys and would have negative implications for enforcement of provincial conservation laws. The OFAH also raised a number of questions about the maximum compensation values for native species, for example, noting that the maximum under OMAFRA's program was \$75 for a racoon pelt while in 2008 an average racoon pelt was worth \$10.75. The OFAH stated that "this change in agricultural policy 'blurs' the line between what is wildlife, and therefore, the mandate of MNR, and what is livestock and the mandate of OMAFRA."

SEV

OMAFRA produced a Statement of Environmental Values (SEV)-consideration document for its decision to proceed with the Agriculture-Wildlife Conflict Strategy. The content of the ministry's SEV-consideration document appears to mirror the discussion paper posted on the Environmental Registry and the purposes of the *EBR*. OMAFRA did not include any detailed information about how it considered its SEV in the decision.

ECO Comment

OMAFRA's Compensation Program is intended to act as a pressure-relief valve in instances when agriculture and wildlife clash. However, the policy raises a number of questions about how the provincial government undertakes wildlife management in southern Ontario.

The ECO shares a number of concerns outlined by the OFAH regarding the farming of native wildlife species. Although the Compensation Program itself cannot authorize farming of particular species, the explicit addition of native birds and mammals to the list of livestock and poultry species eligible for compensation is cause for concern.

Under the old Compensation Program, "poultry" included game birds where kept pursuant to a licence under the *FWCA* (as authorized by MNR), but did not explicitly include all species of game birds. In other words, the program was limited to those birds that were actually kept under a licence (e.g., keeping northern bobwhite in a game preserve). The *FWCA* currently includes fisher, fox, lynx, marten, mink and raccoon within its definition of "farmed" species. Although OMAFRA's intent may have been to bring the program in sync with other provincial policies, simply because a species could theoretically be legally farmed in the province does not mean they are being farmed in actuality, or should be eligible for compensation.

OMAFRA should provide a rationale for why it has included particular species and why it has allotted species-specific compensation amounts. Without such a rationale, elements of the Compensation System seem exceedingly absurd (e.g., \$75 compensation for "farmed raccoons" killed by wildlife; or \$2,000 compensation for "farmed lynx" killed by wildlife – perhaps by a wild lynx). There should be a clear distinction between domesticated species and native Ontario species in the Compensation Program: it makes little sense, ecologically or economically, for the government to provide compensation for farmed native species killed by their wild native predators.

OMAFRA's compensation for native species under the program provides an implicit assumption of the acceptability of (or even an incentive for) farming native animals. MNR permits that authorize the "farming" of such species are not classified instruments under the *EBR* and are not subject to public scrutiny. The ECO believes that the farming of any native species in Ontario raises legitimate concerns worthy of public discussion and that these approvals should be classified as instruments under the *EBR*.

The ECO is disappointed with OMAFRA's use of the Environmental Registry and compliance with the *EBR* for this decision. The ministry did not post a proposal notice on the Registry until urged to do so by the ECO; when the proposal was posted, it did not contain all the relevant detail for the public to make informed comment, particularly with regard to the magnitude of the changes to its Compensation Program. When the decision was posted, its substance was radically different than what was proposed. The net result was that commenters were not given an opportunity to comment on the major implications of the policy, even if they had properly engaged the public participation process. The ECO urges OMAFRA to properly post all proposals in a timely manner, as required by the *EBR*.

Review of Posted Decision:**1.2 Allowing a Variance from the Liquid Fuels Handling Code****Decision Information**

Registry Number: 011-4626
Proposal Posted: September 12, 2011
Decision Posted: October 13, 2011

Comment Period: 30 days
Number of Comments: 0
Decision Implemented: October 13, 2011

Keywords: Liquid Fuels Handling Code; *Technical Standards and Safety Act, 2000*; Technical Standards and Safety Authority; fuel storage tank; waterway; variance

Description

Overview

In October 2011, Ontario's Technical Standards and Safety Authority granted permission to MacEwen Petroleum Inc. (the "Applicant") to deviate from requirements of the Liquid Fuels Handling Code by installing an aboveground fuel tank at a fuel handling site in Picton, Ontario less than 30 metres from a waterway.

Background

The Technical Standards and Safety Act, 2000:

In Ontario, many aspects of public safety are regulated under the *Technical Standards and Safety Act, 2000* (TSSA, 2000): amusement devices; boilers and pressure vessels; elevating devices; operating engineers; upholstered or stuffed articles; and – last but not least – fuels.

The Ministry of Consumer Services (MCS) is responsible for the TSSA, 2000; however, an independent not-for-profit body called the Technical Standards and Safety Authority (TSSA) primarily administers the Act and its regulations on behalf of the ministry. The TSSA's broad mandate includes, among other things, administering the Liquid Fuels Handling Code (formerly the Gasoline Handling Code). The Liquid Fuels Handling Code, which is adopted by reference into O. Reg. 217/01 (Liquid Fuels) made under the TSSA, 2000, establishes standards for the handling (i.e., storage, transmission, transportation or distribution) of gasoline and other petroleum products, as well as other liquid products used as fuel.

Variances from the Liquid Fuels Handling Code:

Under the TSSA, 2000, a Director may authorize a variance (i.e., deviation) from any regulation made under the Act, provided "the variance would not detrimentally affect the safe use of the thing to which the regulation ... applies or the health or safety of any person."

Variances from a number of clauses of the Liquid Fuels Handling Code are prescribed as instruments under the *Environmental Bill of Rights, 1993* (EBR); this includes, for example, variances from the provisions governing the installation and testing of aboveground fuel tanks, as well as secondary containment. The TSSA must use the Environmental Registry to give notice of and consult the public on any proposals to grant variances from prescribed clauses. The TSSA posts around 15 – 30 notices for Liquid Fuels Handling Code variances on the Registry each year.

The Variance Granted to the Applicant:

In this case, the Applicant requested a variance from Clause 3.2.1.3 of the Liquid Fuels Handling Code, which requires aboveground storage tanks to be installed at least 30 metres from a waterway (i.e., stream, river, lake, canal or watercourse). The Applicant proposed to install a 13,600 litre aboveground tank on a property in Picton, less than 30 metres from a ditch that may be connected to a waterway.

To support its request the Applicant offered the following as "equivalent safety":

- Installing a double-walled tank (even though only a single-walled tank is required under the Liquid Fuels Handling Code), which would greatly reduce the likelihood of tank failure;
- Placing the tank in a concrete containment dike, which would reduce the possibility of an escape of fuel into the natural environment;
- Including in the fuelling area of a 15' by 20' concrete apron with a catch basin draining into an oil/water separator (i.e., a device that removes oil and other fuels from wastewater that flows into the catch basin, preventing the oil and other fuels from being discharged with the water); and
- The tank/dispenser area would slope away from the drainage ditch.

The TSSA informed the ECO that it based its decision to grant the variance on the safety measures proposed by the Applicant. The instrument (in the form of a variance letter) also requires the installation of the tank to be inspected by the TSSA, and for a copy of the variance letter to be kept readily available in the vicinity of the tank at all times.

Implications of the Decision

The requirement in the Liquid Fuels Handling Code to locate fuel tanks at least 30 metres from any waterway helps to prevent leaked or spilled fuel from reaching waterways, impairing water quality and harming aquatic species. Nevertheless, the *TSSA, 2000* contemplates that there may be situations when deviation from the 30-metre requirement would not affect the “safe use” of the fuel tank – presumably “safe use” includes preventing adverse environmental impacts.

In this case, the TSSA’s decision to grant a variance based on the enhanced safety measures proposed by the Applicant (i.e., the use of a double-walled fuel tank, together with additional containment measures and slope of the the tank/dispenser area) should protect against leaks or spills to the nearby waterway while allowing the Applicant to carry on with its business. The use of multiple containment measures could also help prevent any escaped fuel from reaching soil and groundwater in the vicinity of the tank.

Public Participation & EBR Process

The TSSA posted a proposal notice on the Environmental Registry on September 12, 2011, providing 30 days for the public to comment on the proposed variance. However, the TSSA reports that it did not receive any comments on the proposal.

The proposal notice provided only basic information about the Applicant’s request (the name of the Applicant; the address to which the instrument would apply; the type of variance being sought; and the “equivalent safety” offered by the Applicant). It did not explain, for example, what type of fuel would be stored in the tank or whether, in the TSSA’s opinion, the “equivalent safety” proposed would be sufficient to protect the nearby waterway from any escape of fuel. Further, the proposal notice did not identify the specific waterway in question.

Similarly, the decision notice merely stated that the permission requested had been granted. The TSSA did not provide a rationale for its decision, confirm or explain any of the conditions of the variance, or include a link to the variance instrument itself. The TSSA did not respond to a request by the ECO for a copy of the instrument until five months after the initial request was made.

SEV

In late August 2011, the ECO wrote to MCS and the TSSA to inform them that the ECO would start requesting proof that they had considered the ministry’s Statement of Environmental Values (SEV) when making decisions on select *EBR*-prescribed instruments under the *TSSA, 2000*. The ECO made its first such request to the TSSA in December 2011 in relation to this Liquid Fuels Handling Code variance.

In February 2012, the TSSA wrote to the ECO to explain that it only became standard practice at the TSSA to complete an SEV consideration form for instruments as of January 1, 2012 – after the decision on the Applicant’s variance had been made. The TSSA explained that in mid-2011, it developed an SEV consideration form and guide to aid staff in considering the SEV when making instrument decisions and documenting that consideration process. Staff were given until January 1, 2012 to become familiar with the new process. The TSSA provided the ECO with copies of its new SEV consideration form and guide.

The TSSA stated:

Although the SEV consideration form was not yet in use at the time of this particular variance application, TSSA was nevertheless already considering potential environmental impacts as part of our integrated variance application assessment process. This is in keeping with the

MCS SEV, which provides that “Analysis of environmental effects and the purposes of the EBR will be integrated into a proposal’s other analysis, whether of a social, economic, scientific or other nature. This will permit joint consideration of all relevant factors in a balanced, reasonable and responsible manner.”

Other Information

Environmental Management Protocol for Fuel Handling Sites in Ontario

In May 2011, the TSSA posted a policy proposal notice on the Registry (#011-3627) for a new draft Environmental Management Protocol for Fuel Handling Sites in Ontario (the “Protocol”). The Protocol, which would replace a May 2007 version, provides direction on the reporting, assessment and mitigation of damage caused by the escape of petroleum products to the environment or inside buildings. The Protocol applies to products governed by the Liquid Fuels Handling Code and Fuel Oil Code, such as gasoline, diesel and fuel oil at operational fuel handling sites. For example, the Protocol would apply to a gasoline spill or leak from an above- or underground fuel tank at a gasoline service station or bulk fuel storage facility.

The TSSA states in the Registry notice that the proposed updates are necessary to keep the Protocol in step with recently revised soil and groundwater site condition standards under the *Environmental Protection Act*. Once the updated Protocol is finalized, it will be adopted – and made legally binding – by the Liquid Fuels Handling Code and the Fuel Handling Code.

At the time of writing, no decision had been posted on the Registry.

TSSA, 2000 Variances Not Prescribed for Source Protection Purposes

Under the *Clean Water Act, 2006 (CWA)*, in areas where drinking water source protection plans are in effect, prescribed provincial instruments must conform to the source protection plan’s significant threat policies and Great Lakes policies, and have regard to other policies in the plan. This allows prescribed instruments to be used to implement source protection plan policies and to manage threats to drinking water sources.

Interestingly, while the handling and storage of fuel is a prescribed drinking water threat under the CWA, no instruments under the TSSA, 2000 are “prescribed instruments” for source protection purposes. As a result, while a decision by the TSSA to grant a variance from the Liquid Fuels Handling Code (such as a variance allowing a fuel tank to be located less than 30 metres from a waterway) must not detrimentally affect health and safety, that decision is not specifically required to conform to source protection plan policies.

Draft source protection plans were required to be submitted to the Ministry of the Environment by August 2012.

ECO Comment

The TSSA’s decision to grant this variance seems reasonable based on the conditions of the approval and the TSSA’s communications with the ECO. It is disappointing, however, that the TSSA failed to respond promptly to the ECO’s simple request for a copy of the actual variance instrument. The ECO is pleased that the TSSA has committed to responding to future information requests in a timely manner.

This decision appears to be a good example of how the variance provision of the TSSA, 2000 is intended to work; if deviating from a requirement would benefit a company or individual without compromising safety (including safety of the environment), it makes sense to grant a variance. Further, the decision seems to be in keeping with the stated purpose of the Act “to enhance public safety in Ontario by providing for the efficient and flexible administration of technical standards” (emphasis added).

That said, fuel handling and storage sites have been, historically, notorious sources of soil and groundwater contamination. The ECO hopes that the TSSA carefully scrutinizes all applications for variances from the Liquid Fuels Handling Code to ensure that waterways are safeguarded against potential fuel leaks or spills, and that it monitors compliance with such variances. The ECO also encourages the TSSA to prepare more informative Registry notices for instruments in the future.

Finally, while it is disappointing that TSSA staff were still not documenting their SEV consideration for instruments in October 2011, the ECO appreciated receiving the TSSA's rationale for making this decision. It is encouraging that the TSSA has developed an SEV consideration form and guide to assist staff going forward; the next time the ECO requests proof of SEV consideration, we expect that the TSSA will be prepared.

Review of Posted Decision:

1.3 Recent Amendments to the Drive Clean Program

Decision Information

Registry Number: 011-2759
Proposal Posted: April 21, 2011
Decision Posted: June 2, 2011

Comment Period: 30 days
Number of Comments: 122
Decision Implemented: September 1, 2011

Keywords: Drive Clean; Air Pollution; MOE; Transportation

Description

Overview

First introduced in April 1999 in the Hamilton-Wentworth and Greater Toronto Area, Drive Clean was established to reduce smog-causing emissions from cars and light trucks and help improve air quality in the province. Since its implementation in Ontario, the program has undergone several changes. Most recently, the Ministry of the Environment (MOE), working in conjunction with the Ministry of Transportation (MTO), posted a notice on the Environmental Registry in April 2011, with several proposed changes to the program – most significantly, extending the age at which vehicles are first required to undergo emission testing by two years, from five to seven.

Background

Smog Concerns:

The Drive Clean program was introduced because cars, trucks and buses are Ontario's largest domestic sources of smog-causing emissions. Other significant contributors to smog include metal smelting and coal-powered electricity generation and products such as paints and cleaning fluids. Approximately half of Ontario's smog-causing pollution is blown into the province from sources in the midwestern United States.

Smog is a mixture of air pollutants, particularly ground level ozone and particulate matter (PM). Ground level ozone is formed when nitrogen oxides (NO_x) and volatile organic compounds (VOCs) combine when exposed to sunlight. PM refers to microscopic solid particles and liquid droplets either released directly from combustion and non-combustion sources (primary PM) or formed in the atmosphere from precursor gases such as sulphur dioxide (SO₂), NO_x and VOCs or ammonia (secondary PM). PM are classified into two categories based on their size: PM_{2.5} (PM less 2.5 microns) and PM₁₀ (PM less than 10 microns).

Smog is a concern because of the environmental and human health risks associated with exposure. Smog and its associated pollutants have been found to damage forests, agricultural crops and natural vegetation. For instance, ground level ozone causes more vegetation damage in Ontario than any other pollutants, and elevated levels of ozone were estimated in a 2004 government report to cost Ontario growers up to \$70 million a year in reduced yields and related effects.

With respect to human health, scientists have found there is no “safe” level of exposure to smog. Smog pollution is linked to serious health effects such as premature death, bronchitis and respiratory and heart problems, and prompted the Ontario Medical Association to release a report in 2000 and again in 2005 on the health and economic effects of ozone and PM. The Canadian Medical Association also released a report in 2008, the “National Illness Cost of Air Pollution” report, revealing that Ontario and Quebec have the largest proportion (70%) of acute premature deaths due to air pollution, possibly reflecting their poorer air quality relative to the other parts of Canada. The study projected that in 2015, air pollution in Ontario would result in 1,424 acute premature deaths, 5,371 hospital admissions, 46,375 emergency room visits, 11,152,400 minor illnesses and 300,662 doctor office visits. The study also tabulated that in 2015 the economic cost of air pollution from lost productivity, healthcare costs, decreased quality of life and loss of life would total \$4,318,500,000 (in 2006 dollars).

Drive Clean Program:

To address the human, environmental and economic effects from smog, the province followed other jurisdictions including British Columbia and numerous U.S. states (e.g., California), and implemented its own mandatory vehicle emissions inspection and maintenance program (I/M program) in April 1999. The program, outlined in O. Reg. 361/98 made under the *Environmental Protection Act* (EPA), is designed to test, identify and repair vehicles releasing high levels of smog-causing pollutants.

Drive Clean was a component of the province’s 1999 Anti-Smog Action Plan (“ASAP”), a multi-sector plan that set out to reduce smog-causing emissions from all sources in Ontario. ASAP aimed to achieve a 75 per cent reduction in the exceedances of the 80 ppb ozone provincial criterion. To meet this overarching target, the ministry set out targets for each of the contributing smog-causing pollutants (see Table 1). When introduced in 1999, Drive Clean was expected to eventually contribute one-tenth of ASAP’s 45 per cent reduction target for NO_x and VOCs; and a 22 per cent reduction of fleet emissions in the program area.

Table 1. Ontario’s Smog Reduction Targets. (Source: MOE, Ontario’s Clean Air Action Plan: Protecting Environmental and Human Health in Ontario, June 21, 2004.)

Ontario’s Smog Reduction Targets				
	NO _x	SO ₂	VOCs	PM
Reduction Target	45% by 2015 (from 1990 levels)	50% by 2015 (from Countdown Acid Rain Limit)	45% by 2015 (from 1990 levels)	10% by 2015 (from 1990 levels)
Target Status	43% reduction	Target met in 2007	Target met in 2009	Status unknown

Although ASAP is a historic document, the targets set out in the 1999 plan are still the ministry’s current targets. At present, anti-smog initiatives are integrated in various policies and regulations such as O. Reg. 496/07 for the cessation of coal-fired electricity generation; O. Reg. 397/01 and O. Reg. 194/05 which establish annual emission limits for NO_x and SO₂ for electricity generating units and for eight large industrial sectors, respectively; and the adoption of Canada-wide standards for ambient ozone and PM_{2.5}. According to correspondence with MOE, as of 2009, the VOCs emissions reduction target was met, and NO_x emissions have been reduced by 43 per cent from 1990 levels. In addition, a target to reduce SO₂ emissions 50 per cent below 1985 levels by 2015 was met in 2007.

The Drive Clean program requires most passenger cars, vans, light trucks and sport utility vehicles of a specified age, that are registered in the Drive Clean program area, to get a test pass or conditional pass to renew the stickers on their licence plates. The 1999 program area was expanded in 2001 and 2002 to

include the areas between Windsor and Ottawa (the smog zone of southern Ontario). Light-duty vehicles (up to 1988 models) in southern Ontario are required to undergo testing every two years at accredited facilities. Heavy duty non-diesel vehicles in southern Ontario and heavy duty diesel vehicles in the entire province must get tested annually. Vehicles may also need to undergo testing in order to transfer ownership. Light-duty vehicles from 1987 and older are exempted from the program, as well as hybrid vehicles, vehicles designated as historic, light duty farm vehicles, kit cars and motorcycles.

To date, more than 35 million light-duty vehicle emission tests have been performed, and of those, 10.7 per cent were fails. Of the 1.6 million heavy duty diesel emissions tests performed, 4 per cent were fails; and of the 108,375 tests on heavy duty non-diesel vehicles performed, 20 per cent were fails. Failing vehicles are required to undergo repairs so they pass a subsequent test. However, in the case of light duty vehicles, 1.2 per cent of emissions tests resulted in vehicles being granted a conditional pass when repair cost limit requirements were met and the vehicle failed its re-test. In 2001 the repair cost limit was increased from \$200 to \$450 (see page 34 of the Supplement to the ECO's 2001/2002 Annual Report for more information on other changes to the program made in 2001).

Recent Changes to Drive Clean

In recent years, the ministry has made additional changes to the Drive Clean program. In 2010, MOE announced it would modernize the emissions test for light-duty vehicles and enhance its oversight of the program's repair technicians. Effective January 1, 2013, Drive Clean will use on-board diagnostic testing, which MOE stated would lead to more accurate test results, and therefore more effective repairs for failing cars and more emission reductions (for more information, see Section 4.3 of the Supplement to the ECO's 2010/2011 Annual Report).

In June 2011, together with MTO, MOE made further changes to the Drive Clean program, implemented through amendments to Regulation 628 – Vehicle Permits, made under the *Highway Traffic Act (HTA)*, which came into effect September 1, 2011. The amendments, described below, address emissions testing for vehicle registration, licence renewal or ownership transfer purposes. Vehicle renewals and registrations fall under MTO's Reg. 628 under the *HTA*. The *HTA* is not a prescribed Act under the *Environmental Bill of Rights, 1993 (EBR)*; however, MOE decided to post a policy notice on the Environmental Registry (#011-2759) and solicit comments on the proposed changes.

The following is a summary of the amendments.

Extend exemption for new vehicles by two years: exempt an additional two newer model years for light-duty and heavy-duty vehicles from Drive Clean emissions testing requirements. In effect, vehicles will commence testing when they are seven years of age instead of five.

Eliminate situations of two tests occurring within two years: light-duty vehicle owners will not be required to have two tests in two calendar years – i.e., one for the initial vehicle registration and one for registration renewal. The light-duty “emissions inspection report” can be used for a one-time registration renewal if: (i) it is older than 12 months; (ii) it indicates the vehicle fully passed the Drive Clean emissions test in the previous calendar year; and (iii) it was only used for a single ownership transfer or vehicle registration in the previous calendar year.

Allow family members and leaser/lessees to transfer vehicle without a report: remove the requirement for a light-duty “emissions inspection report” for the transfer of vehicle ownership between immediate family members or between a leasing company and the lessee if an emissions test is not required that year.

Eliminate report requirement for historic vehicles: an “emissions inspection report” is not required to either register or renew registration for vehicles that have an Ontario Ministry of Transportation attached “Historic” licence plate.

In making its decision to change the age when vehicles start getting tested to seven years, the ministry stated it considered information from the Drive Clean 2008/2009 Emissions Reduction Report, new

vehicle emissions standards, and estimated emissions from the vehicle fleet (as provided by an external independent vehicle emissions expert). Based on this information, the ministry concluded that exempting vehicles that are five and six years old from the program would result in a negligible impact on emissions reductions (less than a one per cent increase in smog-causing emissions). Newer vehicle model years, including those that are five and six years in age, have a very low failure rate, require fewer emission-related repairs and contribute fewer smog-causing pollutants to the environment. The ministry also expects that the regulatory amendments will ensure program resources are directed to where they are most needed.

Implications of the Decision

Drive Clean's stated goals are to improve human health and the health of the environment by reducing smog-causing pollutants through testing and repairing vehicle emissions systems. Drive Clean not only reduces smog but also reduces the pollutants contributing to acid rain and climate change.

In effect, the most recent amendments will result in fewer vehicle emission tests. Most significantly, vehicles aged five to seven years old will no longer be tested. It is important to assess the role of the Drive Clean program in reducing smog-causing emissions from vehicles in order to determine the impact these amendments will have on the effectiveness of the program. MOE has conducted several reviews and assessments of the program on light-duty and heavy-duty vehicles. The reports, prepared by independent consultants, are posted on the ministry's website.

A 2005 MOE report, "Evaluation of Ontario Drive Clean Program," evaluated the program's social, environmental and economic costs and benefits, and its effectiveness in achieving its objectives. Among its many findings, the report concluded that the Drive Clean program will improve environmental and human health through the reduction of harmful vehicle emissions. It also found that newer vehicle model years had lower emissions than older models, and that emission controls for vehicles deteriorate with age. Therefore, the report determined that exempting newer model year vehicles would have little effect on emissions reductions, and recommended the ministry exempt two additional new model years (i.e., start testing at five years of age instead of the then-current three year requirement) because it would result in significantly fewer tests and reduce costs while having only a minimal impact on emissions reductions. However, the 2005 report stated it did not recommend exempting more than the two additional model years (i.e., start testing when vehicle reaches six or seven years of age) because no other I/M program exempts that many years and it would have an unacceptable impact on reducing emissions. The report also called for the end of the exemption for older model vehicles (20 years and older) because they were large polluters. The Ontario Auditor General's 2006 report also recommended ending the exemption for testing cars older than 20 years of age.

Another ministry study was conducted in 2007 for light-duty and heavy-duty vehicles, and then was updated in 2010. It was also completed by a consultant retained by the ministry and the reports are also posted on the ministry's website. The report, "Drive Clean Program Emissions Benefit Analysis and Reporting," examined emissions reductions from 1999-2005 and then was updated to incorporate data from 2005-2008. The update stated that from 1999-2008, for light-duty vehicles, Drive Clean reduced smog-causing emissions of: hydrocarbons and NO_x by an estimated 266,000 tonnes; carbon monoxide by 2.48 million tonnes; and carbon dioxide by 256,000 tonnes. The report stated that in 2008 alone, Drive Clean reduced the combined emissions of these pollutants by 35 per cent from what they would have been without the program.

The report acknowledged other factors that also contributed to these reductions including vehicle turnover, improved vehicle technology, cleaner fuels and better vehicle maintenance. The report estimated that without the Drive Clean program, Ontario's fleet would have experienced a 48 per cent reduction in emissions from 1999 levels; however, with Drive Clean, estimates showed a 68 per cent reduction in emissions. Therefore, the report found that the program lowered smog-causing emissions by a further 20 per cent between 1999 and 2008 than if the program had not existed. The report also noted the greatest number of vehicles that failed were model years 1993 and 1995. Earlier models also failed but there were fewer that were tested. In 2008, 79 per cent of vehicles that failed their initial test were

repaired and retested resulting in a pass or a conditional pass. Similar trends were observed for heavy duty vehicles.

In 2007, a professor in the Department of Economics at the University of Guelph examined the economic efficiency of the Drive Clean program. The study's author found that Drive Clean was an expensive way of reducing air pollution, and concluded that the province could achieve 70 per cent emission reduction at one fifth the current cost if it only tested vehicles between six and fifteen years of age. This is because the failure rate for vehicles under six years is very low. It recommended that Drive Clean restrict testing to vehicles eight years and older so testing is focused on vehicles that would contribute a bigger impact on emissions reduction. The cost savings achieved could be allocated to more effective pollution-reduction initiatives such as public transit.

Lastly, MOE's newly released "Air Quality in Ontario Report for 2010" found that overall air quality had "improved significantly" over the years. The decreasing trends for NO_x, carbon monoxide and SO₂ emissions were attributed to the province's air quality initiatives including Drive Clean emissions testing.

In summary, several studies determined that the Drive Clean program has achieved a reduction in smog-causing emissions. The studies also indicate that the June 2011 amendments are expected to result in cost and time savings for motorists and the ministry by reducing the number of vehicles requiring testing. The studies find that these newer vehicles are not significant contributors to smog-causing pollutants and therefore the amendments will result in a negligible increase in emissions, but should not have a substantial effect on human health or the environment.

As noted above, reducing air pollution from Ontario's air shed may result in millions of dollars in savings from health care costs and environmental damage. However, any gains from Drive Clean could be negated by additional vehicles on the road; extended commuting patterns and congestion, the long-range transport of pollutants into Ontario's air shed from the U.S. and pollution from other industrial sources. Weather patterns can also have an impact on the number of smog days that occur. Combined, these factors partly explain why the number of smog days this past decade has been higher than the latter half of the 1990s. Furthermore, the Canadian Medical Association's report projects that in 2015 air pollution will continue to have a detrimental impact on the health of Ontarians. Drive Clean will need to be supported by other measures to reduce air pollution and preserve the gains achieved by the I/M program.

Public Participation & EBR Process

The public had 30 days, ending May 21, 2011, to comment on the proposed amendments posted on the Environmental Registry. The ministry received 122 written and online comments. The majority of comments focused on the proposal to start testing vehicles when they reach seven years of age instead of five years. Some commenters were concerned about the environmental impact of delaying vehicle testing by two years. Others, particularly garage owners, were not in favour of the proposal because they were concerned about financial hardships to their businesses. Others suggested that the ministry should postpone its decision until it reviewed the results from the on-board diagnostics testing since the results generated by the new technology are supposed to be more accurate. A few members of the public criticized the Drive Clean program itself and felt that the program was a tax-grab and a nuisance.

The ministry responded to these commenters by stating it would proceed with the amendments. It explained that its data shows the changes would have a minimal effect on emissions reductions. The ministry anticipated this increase in emissions would be offset by the new computerized diagnostics (starting January 2013) which it expects, based on its higher accuracy testing, will identify more polluting vehicles and result in an approximately 20 per cent greater reduction of smog-causing pollutants over the current tail-pipe test. Furthermore, MOE stated that the amendments and the new test technology will save vehicle owners time and money, and will benefit facility owners since the new technology tests vehicles at a faster rate and more accurately.

The other proposed amendments received far fewer comments and most commenters were supportive of the changes. A few expressed concern that these provisions could be subject to abuse or that vehicles

transferred between family members or leaser/lessees and historic cars should not be exempt from emission inspection reports because of the potential adverse impact on air quality.

In response to these comments, the ministry stated that no changes were required to the amendments as proposed. The ministry pointed out that historic vehicles are not for regular on-road use. With respect to vehicles transferred between family member or leasers/lessees, the ministry stated that the amendment was prompted by public feedback, and since these vehicles would be tested at its biennial emission inspection test the amendment would have a negligible impact on emissions reductions. The same explanation was also extended to the amendment that exempts light-duty vehicles from undergoing two emission tests within two calendar years.

SEV

MOE stated that the amendments to the Drive Clean program are consistent with principles outlined in its Statement of Environmental Values. With respect to environmental management principles, MOE explained that the amendments will have a negligible impact on emissions reductions. The ministry also stated that the program itself continues to uphold the polluter-pays principle by requiring owners of polluting cars to make the necessary repairs. The program also aids the environment by improving air quality, and protects the health of those living in high traffic corridors. Regular inspection and maintenance of cars will prevent the release of smog-causing emissions from vehicles. Vehicles tested in their seventh year should still be under warranty.

With respect to economics, MOE asserted the automotive service industry has benefited from the Drive Clean program. Although, the amendments will result in fewer visits to auto service facilities, the financial impacts to these businesses should be minimal since the vehicles affected by the amendments would not likely have required repair services. The ministry also stated that public consultation was a part of the decision-making process; many of the amendments arose from public feedback, and the public and key stakeholders also had an opportunity to comment on the amendments through the Environmental Registry.

Other Information

In November 2005, MOE posted a notice for a Drive Clean Program Review on the Environmental Registry (#PA05E0019). The notice summarized proposed changes such as increasing the mandatory emission testing age of vehicles from three to five years; eliminating the rolling exemption of 20-year-old light-duty vehicles; requiring annual testing for vehicles 12 years old or older; increasing the repair cost limit from \$450 to \$600; strengthening anti-fraud provisions and implementing new security features; and implementing on-board diagnostic testing for 1998 and newer light-duty vehicles. To date, MOE has yet to post a decision notice for this proposal, however it has moved forward with many of these proposals. It appears that this proposal has been forgotten and MOE should post a decision notice with up to date information and links to the recent changes to the program in order to avoid public confusion.

In the "Addendum to the 2012 Ontario Budget: Report on Expense Management Measures", Drive Clean is listed as a proposed candidate for delivery through a Delegated Administrative Authority (DAA) model because it is a "mature program" that fully recovers its operating costs through revenue. The Addendum explained that under the DAA model, the program would be fully funded by its own revenue thereby eliminating the funding from MOE.

In May 2012, the British Columbia government announced that AirCare, the province's 20 year old I/M program, will stop tailpipe testing of light cars and trucks at the end of 2014 and will focus on heavy-duty diesel vehicles.

ECO Comment

Air pollution is a critical environmental and health issue in the province. Drive Clean has been debated since its inception, with many questioning whether it was the best method to improve the province's air

quality. The ECO supports Drive Clean because it identifies and requires the repair of vehicles that are releasing pollutants above provincial standards. Furthermore, emission technologies in vehicles, no matter how advanced, can deteriorate over time. Drive Clean will ensure that vehicles remain well-maintained and do not evolve into old polluters. Furthermore, ministry studies indicate that Drive Clean has contributed to a reduction in vehicle emissions, therefore meeting its program objectives.

It is commendable that MOE has commissioned evaluations and assessments of the program, and posted these reports online, along with other user-friendly information regarding the program. The materials clearly outline relevant information, including the amendments, for light-duty and heavy-duty vehicle owners and facilities operators. The ECO is also pleased that MOE posted the proposed amendments as a policy notice on the Environmental Registry, and sought public comments on the amendments, even though the *HTA* regulation being amended is not prescribed under the *EBR*.

The decision to exempt an additional two newer model years from emissions testing seems reasonable: both the academic and ministry studies recommended that vehicles undergo testing when they reach seven or eight years of age; other jurisdictions with similar I/M programs, namely British Columbia and California, also start testing vehicles when they reach seven years of age, and the research suggested the amendments may result in a less than one per cent impact on emission reductions. Although not yet implemented, MOE asserted that any increase in emissions will be offset by the greater accuracy of the new on-board diagnostic testing technology, which will better identify vehicles requiring repairs. The ECO suggests that once the new testing technology is implemented in 2013, the ministry should re-examine the test results to ensure that Drive Clean continues to meet its objectives with the new amendments in place.

The ECO believes the public will benefit from these amendments, which are expected to increase the convenience of the Drive Clean program without significantly impacting its environmental effectiveness. Since the data indicates that most vehicles under seven years of age are not failing and do not require repairs, they are not contributing to the reduction in smog-causing emissions. As noted by MOE, vehicles first tested at seven years of age should still have necessary repairs covered by the manufacturer's warranty.

In regards to the Drive Clean program itself, if the DAA model proposed in the addendum of the 2012 provincial budget is adopted, the ECO urges the ministry to verify that the program can be self-funded by the revenues it generates, and subsequently any government funding diverted from Drive Clean be allocated to other air quality projects. Furthermore, any cost savings achieved by the ministry through the amendments should also be applied to address other sources pollution.

The ECO would like the ministry to continue supporting and expanding air pollution initiatives for vehicles and other sources. For instance, the ministry could look at reducing particulate emissions from diesel machines not covered by Drive Clean, as British Columbia intends to do. MOE should ensure gains achieved by Drive Clean are not negated by trends of growing vehicle population and kilometres travelled in Ontario, especially since the populations in Ontario's growth centres are expected to increase. As described in Chapters 3.4 and 6.3 of Part 2 of our 2011/2012 Annual Report, the long-term vision for the province should be ongoing investment and commitment to promote the shift to public transit.

Review of Posted Decision:**1.4 Amendments to the Site-Specific Air Standards Process****Decision Information:**

Registry Number: 011-3088
Proposal Posted: April 13, 2011
Decision Posted: June 22, 2011

Comment Period: 31 days
Number of Comments: 20
Decision Implemented: June 22, 2011

Keywords: air pollution; O. Reg. 419/05

DescriptionOverview

In June 2011, the Ministry of the Environment (MOE) amended O. Reg. 419/05, Air Pollution – Local Air Quality, made under the *Environmental Protection Act (EPA)*, to refine the process for site-specific standards for air emissions. These amendments were introduced to “improve regulatory certainty and clarity for business” and increase “business investment in Ontario.”

Background

Ontario is home to a wide range of heavy industries that emit pollutants into the air. These air pollutants can contribute to a range of environmental impacts, such as smog, climate change, and contamination of lakes and soils. Some contaminants that enter the environment can bio-accumulate in the higher trophic levels of ecosystems, such as fish-eating birds and mammals. Air pollutants also contribute to a host of human health problems – some contaminants, for example, are carcinogenic, while others can contribute to neurological disorders or respiratory illnesses.

Ontario’s Air Quality Regulation:

Ontario’s key mechanism for regulating air emissions from industry is O. Reg. 419/05. This regulation establishes air standards for over 130 substances, which are limits on the concentration of the contaminants that may be present in the outside air at or beyond a facility’s property line (known as the “point of impingement”). Facilities are required to prepare an “Emission Summary and Dispersion Modelling” (ESDM) report that uses modelling to demonstrate that their emissions would meet the regulatory air standards before the facility can obtain ministry approval to operate.

Over the past decade, MOE has gradually been updating and developing new air standards for dozens of substances. Each new/updated air standard applies to all facilities in the province, both new and existing, and across all industry sectors. Existing facilities are generally given five years to bring their operations into compliance.

The air standard-setting process focuses strictly on environmental and health protection (i.e., each air standard is set at a level that is considered to be safe for human health and the natural environment), and does not take into consideration the technical or economic feasibility of individual facilities being able to meet those limits. As such, the air standards in O. Reg. 419/05 can be quite stringent. However, O. Reg. 419/05 does provide a process (discussed below) for addressing technological and/or economic issues.

Ontario’s approach to regulating air emissions is different than many other jurisdictions, such as the United States, which regulate air pollutants by requiring facilities to use specific types of technology (e.g., best available, economically achievable technology) to reduce emissions.

Site-Specific Standards:

If a facility cannot technically or economically meet one or more of the generic air standards by the phase-in date, O. Reg. 419/05 allows that facility to apply for an individualized, less stringent “site-specific standard.” As an environmental safeguard, however, MOE can only approve a site-specific standard if the Director believes that the standard would not result in the facility frequently exceeding a defined “upper risk threshold” as set out in the regulation.

To apply for a site-specific standard, a facility must submit the following to MOE:

- an *ESDM report*, which must include the emissions results from a monitoring and modelling study, as well as an assessment of the magnitude and frequency of all exceedances of the standard;
- a *Technology Benchmarking Report*, which must assess and rank technical methods for reducing the contaminant emissions and provide an assessment of feasible technologies;
- a *Public Consultation Report*, which summarizes the results of the applicant’s mandatory public meeting with the local community; and
- an *Action Plan* to implement the site-specific standard and monitor progress.

MOE has clearly and repeatedly stated that the intent of the site-specific standard is to provide an “interim” solution for facilities unable to meet the generic air standards, “with the goal of continuous improvement of emissions over time” as new technologies become available or more economical.

Since 2005 (when O. Reg. 419/05 was filed), seven companies have applied for a total of 15 site-specific standards; as of May 2012, MOE had approved seven of those site-specific standards.

Sector-Based Technical Standards:

In December 2009, the province amended O. Reg. 419/05 to establish a third option for compliance. Those amendments authorized MOE to develop “technical standards for classes of facilities,” which is a streamlined method for developing alternative standards for an entire industry sector, rather than having the ministry consider multiple applications for individual site-specific standards.

Under this approach, where at least two facilities within a given sector cannot comply with the air standards, MOE can develop an “industry standard” that includes technical and operational requirements for all sources of contaminants from the specific sector. Any facility within that sector can apply to MOE to register under the industry standard; however, the MOE Director can only approve an application for registration if he/she is of the opinion that air emissions from the facility will not cause an adverse effect, or any adverse effect will be reduced by the application of the technical standard. Once a facility registers, and complies with all of the technical and operational requirements for the technical standard, that facility is no longer required to meet the air standards in O. Reg. 419/05 (or conduct an ESDM) for any contaminants covered in the technical standard.

As of May 2012, MOE had developed two sector-based technical standards: one for the forest products sector and one for the foundry sector. For a more detailed discussion of the sector-based technical standards, see pages 140-151 of the Supplement to the ECO’s 2009/2010 Annual Report.

Amendments to the Site-Specific Standard Process

On June 22, 2011, MOE filed O. Reg. 282/11, which amended several provisions in O. Reg. 419/05 relating to the site-specific standard process, as follows:

Change the Name from “Altered Standard” to “Site-specific Standard”:

The original term used in O. Reg. 419/05 was “altered standard.” In response to requests from the business community, this term was changed to “site-specific standard.”

Extend the Duration of the Site-Specific Standards:

Previously, O. Reg. 419/05 only permitted MOE to approve a site-specific standard for a maximum term of five years, or, if the Director was satisfied that there were “extenuating circumstances,” the site-specific standard could be approved for a term of up to ten years. The amendments now allow MOE to approve a site-specific standard for a *minimum* of five years and a *maximum* of ten years. Applicants no longer need to demonstrate “extenuating circumstances” to obtain a site-specific standard for ten years. As before, applicants are still permitted to apply to renew the standard before the term is set to expire.

Remove the Public Meeting Requirement for Renewals:

Previously, anyone applying for a site-specific standard, including applying for a renewal of a site-specific standard, was required to hold a public meeting prior to submitting the application to MOE. The amendments have removed the public meeting requirement for applications for a renewal of a site-specific standard. However, if there have been significant changes since the original standard (such as technological advances, changes in production capacity or additional scientific information), MOE can still require the applicant to host a public meeting before seeking a renewal. To ensure that the ministry will have adequate opportunity to determine whether or not there have been significant changes that would necessitate a public meeting, a new provision was added to the regulation to require facilities to submit their request for a renewal at least 15 months before a new standard would be required.

Implications of the Decision*Facilitate Use of Site-Specific Standards*

The amendments were made to facilitate the site-specific standard process and make it a more useful option for businesses. MOE stated that the amendments were introduced in response to concerns raised by industry about the site-specific standard process, and are intended to “lead to more regulatory certainty and investment in Ontario.” The amendments facilitate the site-specific standard process in several ways.

First, the new terminology (“site-specific standard”) is intended to help businesses more easily communicate the purpose of the standard to the public. Industry stakeholders had objected to the original term (“altered standard”), arguing that it created a perception among the public that the company was not operating in compliance with O. Reg. 419/05. The new term is intended to better convey that the site-specific standard process is a valid compliance option.

Second, the longer timeframe for the site-specific standard provides industry with the increased certainty they sought, making it a more attractive option for businesses. MOE stated that the new five to ten year period is a reasonable timeframe to implement technology enhancements, considering cost-effectiveness and the rate at which technology improves. MOE noted that this timeframe is similar to competing jurisdictions, like the United States, where technology standards are reviewed every eight to ten years.

Third, removing the public meeting requirement for renewals (assuming no significant changes) simplifies the renewal process, and thus enables companies to rely on a site-specific standard for longer.

Increased and Longer Reliance on Site-Specific Standards

The corollary to the first implication is that these amendments could lead to an increased reliance on the site-specific standard process as a form of compliance with O. Reg. 419/05. While site-specific standards do require measures to reduce emissions, they allow for overall higher levels of emissions than the generic air standards. Therefore, an increased reliance on site-specific standards by industry would mean that people living near those facilities would experience higher levels of exposure to contaminants, and be subjected to those higher levels for more years, than if those facilities operated pursuant to the generic standards.

In 2005, MOE had emphasized that site-specific standards were to be an interim measure for facilities that could not feasibly meet the generic air standards. MOE has repeatedly stated that the site-specific standard process is designed to set a path for facilities to continuously improve their operations and reduce emissions over time. In support of this goal, O. Reg. 419/05 initially set a maximum period of five years for site-specific standards (unless there were extenuating circumstances). Lengthening the maximum from five years to ten years, combined with easier renewal (and potentially multiple renewals), erodes the interim nature of the site-specific standard process. The longer maximum duration of the standard means a longer period between technology reviews, which could mean a delay before new technologies or processes that become available are implemented.

Decreased Public Engagement

All applications for site-specific standards, including renewals, will continue to be posted on the Environmental Registry. As such, the public will continue to be notified of applications for renewal and will continue to have an opportunity to provide written comments. However, in cases where MOE does not use its discretion to require a meeting, the public will no longer have the same opportunity to ask questions, obtain additional information and generally engage with the applicant.

Public Participation & EBR Process

MOE posted the proposal notice on the Environmental Registry (#011-3088) on April 13, 2011, with a 31-day comment period. The ministry received 20 comments on the proposal from industry, environmental non-governmental organizations (ENGOS), municipal public health units (PHUs), First Nations and individual commenters. MOE stated that it also consulted with its multi-stakeholder group, which is co-chaired by an ENGO and an industry association.

MOE posted the decision notice on the Registry on June 22, 2011, the same day that the amendments to O. Reg. 419/05 were filed. The proposal and decision notices were both clear and informative, and the decision notice provided a thorough and accurate summary of the comments received and the ministry's response.

Public Comments

All industry commenters supported the amendments as a step in the right direction; however, most of these commenters expressed a desire for further business-friendly amendments to O. Reg. 419/05. For example, one industry group stated that it “continues to advocate for Ontario to set air standards that are attainable technologically and economically, while protective of human health and the environment. Failure to do so will result in Ontario becoming a jurisdiction where altered standards (whether site-specific or technical) will be the norm rather than the exception. This situation could discourage investment in Ontario by global organizations since alternative sites are available for investment in other jurisdictions with more regulatory certainty.”

Conversely, most ENGOS, PHUs and First Nation commenters opposed the proposal, viewing the amendments as further weakening the environmental protections provided in O. Reg. 419/05, as well as weakening ministerial oversight and public participation. These commenters expressed concern that by making the site-specific process more attractive, more companies will opt for this process rather than invest in the necessary pollution reduction technology to meet the generic air standards.

Change of Name:

Industry commenters supported the change in terminology from “altered standard” to “site-specific standard,” stating that the name better reflects the nature of the standard and the fact that it is “a valid compliance pathway.” Most other commenters were neutral to the change, but several suggested that, to ensure transparency, MOE should add a definition that clearly explains that a site-specific standard is an interim variance from the province-wide standard that permits the facility to operate under a less stringent standard.

Minimum Duration of Site-specific Standard:

Industry commenters stated that the increased duration for a site-specific standard is an improvement that will provide better regulatory certainty; however, they continued to advocate for no expiry date at all (much like the technical standards). Industry commenters recommended that, instead, a technology review should be conducted periodically (e.g., every seven to ten years), and if the technology review indicates no new viable, in-use, cost-effective technology, then the site-specific standard should simply continue.

ENGO and First Nation commenters did not support this amendment. A few noted that companies already have a five year phase-in period to meet new air standards before the site-specific standard even begins; the longer duration of the standard will expose communities to higher levels of pollution and a greater health risk for a greater duration. Both ENGO and PHU commenters expressed concern that these changes would weaken the goal of continuous improvement. These commenters argued that MOE must require industry to regularly identify and develop ways to minimize releases of pollutants during the term of the site-specific standard.

Removal of Public Meeting Requirement for Renewals:

Industry supported this amendment, noting that the updated technology reviews can be shared with the community through the notice on the Environmental Registry. ENGO and First Nation commenters did not support this amendment, stating that their earlier support for the site-specific standards process was contingent on the retention of the public meeting requirement. The ENGOS, as well as a PHU, stated that the renewal process should be treated with as much scrutiny as the original approval process, with full onus on the company to demonstrate (to MOE and the local community) that it has actively researched changes in production, technology and other means to reduce emissions, and that it continues to be unable to meet the generic air standards. ENGOS also commented that an Environmental Registry notice alone is not sufficient consultation. They argued that the community must have an opportunity to engage directly with the facility, rather than just provide feedback to MOE.

SEV

The ministry's Statement of Environmental Values (SEV) consideration document explained how each of MOE's SEV principles was considered. For the most part, MOE considered its SEV in relation to O. Reg. 419/05 generally, noting that the flexibility in compliance options available under the regulation allows facilities to "improve their performance as best they can, considering technical and economic factors." In relation to the specific amendments, MOE merely stated that these amendments are intended to improve certainty and clarity for business, and to improve the effectiveness of the site-specific process as a compliance option.

Other Information*New/Updated Air Standards*

Over the past decade, MOE has been working on updating the generic air standards for a number of contaminants. In June 2011, MOE made additional amendments to O. Reg. 419/05 to include new or updated air standards for the following eight contaminants:

1. Benzene
2. Benzo[a]pyrene (as a surrogate of total Polycyclic Aromatic Hydrocarbons)
3. 1,3-Butadiene
4. Chromium, Chromium Compounds (Metallic, Divalent and Trivalent) and Hexavalent Chromium Compounds
5. Dioxins, Furans and Dioxin-like PCBs
6. Manganese and Manganese Compounds
7. Nickel and Nickel Compounds
8. Uranium and Uranium Compounds

During the consultation on these standards, stakeholders expressed a number of concerns related to the science and implementation of the standards. To try to address these concerns, MOE established a multi-stakeholder group, co-chaired by industry and ENGO representatives. The multi-stakeholder group was able to reach consensus on some points, which was reflected in the decisions on these air standards; however, there are a number of unresolved issues with O. Reg. 419/05 that the group continues to try to address. For more information, see the notice on the Environmental Registry (#010-7190).

Air Standards Guidance Documents

MOE has stated that it plans to update its guidance documents – the “Guideline for the Implementation of Air Standards in Ontario” and the “Guide to Requesting an Alternative Standard” – to reflect the recent amendments to O. Reg. 419/05, and to provide more clarity regarding the site-specific standard process. For example, MOE stated that the updated guidelines will set out factors to consider when determining the duration of a site-specific standard for a facility, as well as suggestions on how to determine best available technology. MOE also stated that it would update the guidelines to reflect the ministry’s goal to make decisions on site-specific standards within 15 months.

Risk Communication

During the consultation on the amendments, many industry stakeholders commented that there was a need for MOE to play a more active role communicating to the public that all compliance options under the regulation are equally valid and “health protective.” At the same time, several ENGOs stated that they would like better information on the risks associated with proposed site-specific standards. In response, MOE stated that it is currently developing a multi-faceted communications strategy to improve risk communication relating to all the compliance options under O. Reg. 419/05.

CCME Air Management System

In October 2010, the Canadian Council of Ministers of the Environment (CCME) agreed to a new Canada-wide framework for addressing air quality issues, called the “Air Quality Management System for Canada.” This framework contains several components that are currently being developed, including the establishment of “base-level industrial emissions requirements” (BLIERs) for certain pollutants (i.e., sulphur dioxide, nitrogen oxides, volatile organic compounds and total particulate matter). BLIERs can be either quantitative intensity-based standards or qualitative performance requirements, which are being developed for 13 major industry sectors. The expectation is that the BLIERs (and other elements of the framework) will eventually be integrated into Ontario’s air regulatory framework (i.e., O. Reg. 419/05 and facility air approvals), although it is not yet clear how.

The CCME framework also includes the concept of “air zone management,” which could provide a possible means for filling the gap in Ontario’s existing regulatory framework to address the cumulative impacts of multiple pollutants and polluters within an airshed. The ECO expects that, as each of the components of the Canada-wide framework are being developed, MOE will consult with the public on the proposed elements through the Environmental Registry.

ECO Comment

When the ECO reviewed the last round of amendments to O. Reg. 419/05 in our 2009/2010 Annual Report (Part 4.3), the ECO commented:

Ontario’s general framework for regulating air emissions provides a reasonable and balanced approach. It allows the ministry to set a high bar through its environmental and health-based air quality concentration limits, and then places the onus on facilities to either meet these limits or demonstrate that they cannot due to technological and/or economic barriers. This approach is preferable to setting limits based on what is achievable for all facilities, which would result in standards that reflect the lowest

common denominator. This approach also appropriately acknowledges the challenges for certain facilities to feasibly meet all of the regulatory air quality standards.

This position still holds true. However, as the ECO has cautioned in the past, to protect the environment and public health, MOE must be judicious about the use of alternative standards: MOE should only approve site-specific standards when compliance with the generic air standards truly cannot be feasibly achieved.

The ECO recognizes that some air standards may genuinely not be technically achievable for all facilities, and thus, site-specific standards constitute a legitimate means of complying with O. Reg. 419/05. As such, amending O. Reg. 419/05 to try to make the site-specific standard process function better is reasonable.

However, MOE must ensure that the periodic tweaking of O. Reg. 419/05 does not constitute a gradual watering down of the regulatory air framework in response to industry pressure. Industry stakeholders have and continue to advocate for permanent site-specific standards and a more general move away from the health and environment based generic standards approach. Such a shift, if accepted, would represent a significant step backwards in the regulation of Ontario's air quality.

The site-specific standard process was established as an interim measure, with the expectation that facilities would work continuously to improve their performance. However, the site-specific standard process now allows for an updated technology benchmarking report every five to ten years with a simplified renewal process if it is deemed that there are no significant changes. Given that there is a five-year phase-in for new generic standards before the term of the site-specific standard even begins, and a site-specific standard can be granted for ten years, along with the simplified renewal process that could extend the site-specific standard an additional ten years, one can easily conceive of facilities being given a 25 year grace period before they are required to meet a new or updated air standard.

To meet the ministry's stated goal of continuous improvement, the ECO urges MOE to ensure that the renewal process for a site-specific standard remains as rigorous as the review of the original application. To do so, the ministry must have the capacity to properly evaluate industry's technology benchmarking report and to independently research and evaluate new technologies, to ensure that no new feasible technologies or other means have become available.

Finally, the ECO encourages MOE to use its discretion liberally to require public meetings for renewal applications. While the Environmental Registry provides important notification and comment opportunities, a public meeting enhances the opportunity for dialogue and fuller public participation.

Review of Posted Decision:

1.5 Septic Systems Re-inspection Programs

Decision Information:

Registry Number: 010-3036
Proposal Posted: March 14, 2008
Decision Posted: March 31, 2011

Comment Period: 30 days
Number of Comments: 0
Decision Implemented: January 1, 2011

Registry Number: 010-9557
Proposal Posted: April 13, 2010
Decision Posted: March 31, 2011

Comment Period: 45 days
Number of Comments: 13
Decision Implemented: January 1, 2011

Keywords: septic systems; Ontario Building Code (OBC); drinking water; nutrients

Description

Overview

An estimated 1.2 million septic systems in Ontario discharge billions of litres of wastewater into the surrounding soil, day in and day out. This liquid, filtered to some extent, eventually finds its way into groundwater and water bodies. Hidden from plain view, the maintenance of septic systems is often overlooked until signs of malfunction, such as sewage backup, a drenched backyard, or foul smell, necessitate a call to a sewage hauler or repair company. Until now, Ontario has had no mandatory re-inspection program for septic systems. A 2006 Ontario Rural Wastewater Center survey of close to 300 municipalities showed that a small number of municipalities operate such programs on a voluntary basis; 23 out of the 156 responding municipalities confirmed they had re-inspection programs.

In March 2011, the Ministry of Municipal Affairs and Housing (MMAH) used the Environmental Registry to announce amendments to parts of the Ontario Building Code (OBC) made under the *Building Code Act, 1992 (BCA)* which govern the installation, operation and maintenance of small septic systems. The amendments mandate that certain, but not all, local authorities (municipalities, conservation authorities, boards of health) develop inspection programs for septic systems that treat up to 10,000 litres of wastewater per day. The ministry stated that the amended regulation helps protect the province's drinking water and the natural environment.

Building Code Amendments

The OBC amendments were triggered by the *Clean water Act, 2006 (CWA)* and the Lake Simcoe Protection Plan (LSPP), released in June 2009. The CWA included amendments to the BCA to create a legislative framework for mandatory and discretionary maintenance inspection programs for septic systems. The LSPP directed MMAH and the Ministry of the Environment (MOE) to develop a regulation proposal under the BCA that would designate lands along the Lake Simcoe shoreline or near other water bodies in the Lake Simcoe watershed as prescribed areas for mandatory septic systems inspections (for the ECO review of the Lake Simcoe Protection Plan, see pages 101-108 of our 2009/2010 Annual Report).

Under the Building Code amendments, local authorities must develop mandatory septic system inspection programs for: lands within "vulnerable areas" (as defined under the CWA) where local source protection committees have identified septic systems as a significant drinking water threat; and areas within 100 metres of the Lake Simcoe shoreline or other water bodies in the Lake Simcoe watershed.

For other areas of the province, the OBC amendments leave it up to the discretion of local authorities to establish inspection programs for septic systems.

Timing for Inspection Programs:

In general, the mandatory maintenance inspections for pre-existing septic systems in vulnerable areas must occur within five years of MOE's approval of the assessment report or source protection plan under the CWA. Newly-installed septic systems must be inspected within five years of their installation date. Inspections of septic systems in the Lake Simcoe watershed are required by January 1, 2016 for some areas and by January 1, 2021 for the rest. Subsequent inspections will occur every five years after the first inspection.

No Provincial Funding for Inspections:

The recent amendments to the regulation are silent on types of funding available to local authorities to assist them with the development and implementation of their inspection programs. Local authorities do have the power to levy fees for maintenance inspections, under the BCA.

Outsourcing Inspections:

As an alternative to local authorities' staff conducting inspections of septic systems, local authorities may outsource inspections to certified professionals. The amendments to the OBC make it possible for a local authority to accept a certificate of inspection issued by a prescribed individual. The regulation sets out the conditions for the type of certificates and the qualifications of inspectors.

Inspection Process:

MMAH has developed a septic systems inspection protocol which sets out a progressive audit approach to support the implementation of the regulation. The protocol guides local authorities to adopt initial non-intrusive tests followed by more intensive ones if concerns are identified. Non-intrusive inspections involve a visual examination of the components of the septic system that are above the ground while intrusive inspections involve the examination of underground components of the septic system or of the soil that surrounds it. This protocol replaced an earlier guide, published in 2001. The protocol suggests, but does not mandate, that local authorities maintain records that, among other things, identify the inspected property, show inspection related information, reveal deficiencies the inspection exposed, and disclose the enforcement action taken to correct such deficiencies.

Background

Household wastewater – from toilets, showers, sinks, and household appliances – contains pathogens, nutrients (such as phosphorus and nitrogen), and other contaminants that need to be treated before being discharged into the environment. In many parts of our province – including rural areas, subdivisions and cottage country – that are not serviced by municipal sewer and wastewater treatment plants, septic systems are commonly used to treat and dispose of household wastewater.

Effects of Nutrient Addition from Septic Systems to Water Bodies:

Many Ontario lakes receive nutrients from septic systems. In Lake Simcoe, for example, close to 12,000 cottages with septic systems contribute approximately 4.4 tonnes of phosphorus to the lake every year. Increased nutrient loads from wastewater (especially phosphorus) can drastically alter the quality of lakes and streams. Nutrient addition to lakes can cause eutrophication, characterized by the rapid growth of algae. Decomposing algae can deplete available dissolved oxygen, degrading habitat conditions and sometimes lead to fish kills. Slime, weed infestation and noxious odour from decaying algae can also result in the loss of recreational use of water.

System Maintenance and System Failures:

The effective lifespan of a septic system varies greatly depending on proper design, installation, operation, maintenance, use rates and other factors. Estimates range from 12 to 40 years. Failure to regularly maintain a septic system, and/or use of a septic system beyond its functioning lifespan, can result in a system failure, which in turn can lead to poorly treated wastewater entering the environment.

Septic Systems and Drinking Water:

Poorly maintained or malfunctioning septic systems can contaminate water resources, including private drinking water wells, with microbes (such as *E.coli* and other fecal coliform bacteria). Malfunctioning septic systems are considered a leading cause of private well contamination in Ontario. Approximately 500,000 private wells provide 90 per cent of the province's rural population with drinking water. A dated but still cited 1992 MOE study of 1,300 Ontario farm wells indicated that some form of contaminant such as *E.coli* and other fecal coliform bacteria or nitrates were present in concentrations exceeding the provincial drinking water standards of the time in about 40 per cent of the tested wells.

Elevated nitrate levels in drinking water can put certain groups of the population, such as infants under six months of age and pregnant women, at risk. Phosphorus is not usually considered a health problem in drinking water.

Drinking Water Threats Under the Clean Water Act, 2006

The *Clean Water Act, 2006* (CWA) was developed in 2006, following Justice O'Connor's Report on the Walkerton tragedy, with the stated purpose of protecting drinking water sources in Ontario. Under the CWA, local source protection committees have been established in source protection areas. These committees are responsible for preparing and submitting for MOE's approval assessment reports that identify drinking water threats to municipal drinking water systems. The list of activities that may be identified as a potential drinking water threat is prescribed in O. Reg. 287/07 under the CWA, and includes septic systems. Private wells and other non-municipal water supplies are generally not included under the CWA. The source protection committees are also responsible for preparing source protection plans identifying strategies for reducing or eliminating identified drinking water threats (for the ECO review of the CWA, see pages 118-124 of our 2006/2007 Annual Report; for the ECO review of the Source Protection Planning Process under the CWA, see pages 58-64 of our 2010/2011 Annual Report).

By May 2012, MOE had approved all of the 36 assessment reports submitted by source protection committees, and many of them identified septic systems as significant drinking water threats in various vulnerable areas. Acknowledging a reporting variability, the ECO estimates that roughly 5,000 septic systems have been identified as significant drinking water threats in relation to municipal drinking water systems.

Implications of the Decision

The new requirements for septic system re-inspections in defined "vulnerable areas" under the CWA and in the Lake Simcoe watershed should help identify problems with septic systems in those geographic areas. This in turn should help reduce system failures and the volume and frequency of wastewater contaminants entering the environment.

Now that MOE has approved all assessment reports under the CWA, inspections of pre-existing septic systems in defined vulnerable areas will be required within five years. Given the exemptions that apply to certain parts of the Lake Simcoe watershed, it may take up to 10 years before all septic systems in areas mandated to implement inspection programs have been inspected at least once.

The full geographic reach of the septic systems inspections program is also not yet known, but many areas susceptible to contamination from septic systems are likely to be left without mandatory inspections because they are not near municipal drinking water sources. For instance, although the approved Catfish Creek source protection area assessment report identified known faulty septic systems as a potential source of very high levels of nitrogen and phosphorus in parts of the creek, the local authority is under no legal obligation to initiate a re-inspection program because those stretches of the creek are not in proximity to a municipal drinking water source.

MMAH's new requirements for septic system re-inspections in selected areas can be seen as an attempt to partially fix a poor policy decision taken in the late 1990s, when responsibility for onsite septic systems was removed from MOE and the *Environmental Protection Act*, and shifted to MMAH and the *Building Code Act*. Regulatory authority for permitting and inspecting onsite septic systems was also delegated from the province to local approval authorities. One consequence was that while MOE retained responsibility for protecting water quality in lakes, the ministry no longer had regulatory authority over a significant source of water quality degradation: onsite septs.

Another consequence of delegating septic system approvals to local agencies has been that no provincial agency has developed an inventory or centralized database of septic systems in Ontario. The ECO notes that source protection committees had difficulty identifying the presence or location of septic systems in vulnerable areas. Committees had to rely on a variety of methods to identify septic systems, such as surmising the presence of a septic system based on the presence of a dwelling and the advice of municipal or county departments that sanitary sewer infrastructure is absent in the location. In contrast, to identify other drinking water threats committees were able to use government datasets such as MOE's water wells record database and inventory of PCB storage sites, the Ministry of Natural Resources'

petroleum wells dataset, and the Technical Standards and Safety Authority's database of registered commercial and industrial underground storage tanks.

Had an inventory existed, source protection committees would have identified septic systems in vulnerable areas with greater certainty. Such an inventory could be used for planning purposes such as prioritizing inspections or suggesting corrective action and for reporting to the public on the progress of inspection programs. An inventory would also be a basic prerequisite for evaluating whether the inspection programs are effective in protecting the environment and drinking water over time.

Statewide inventories of septic systems are being developed in a number of U.S. states. Wisconsin, for instance, adopted legislation in 2008 requiring all counties not only to inventory all septic systems but to enforce comprehensive maintenance programs as well. The Minnesota Legislature required the state pollution control agency in 2009 to develop a plan to inspect and provide an inventory for all septic systems in the state. Florida has developed a statewide inventory database. Iowa has developed a statewide septic systems database that all state counties have access to. Recognizing the need for septic systems inventories, the U.S. EPA has created TWIST, a management tool that allows state and local authorities departments to inventory and manage septic systems.

Public Participation & EBR Process

MMAH posted an initial 30-day regulation proposal notice soliciting input on the proposed OBC amendments (Environmental Registry #010-3036) on March 14, 2008. The ministry also held six information sessions province-wide during the same time period and invited comments on its website. No comments were received on the Environmental Registry for that posting. With the intent of satisfying specific policies identified in the LSPP, on April 13, 2010, MMAH posted a separate proposal notice (Registry #010-9557) outlining the reach and timing of mandatory inspection programs in areas within the Lake Simcoe watershed. During the 45-day posting, the ministry received 13 comments mainly from municipalities, regional health departments and conservation authorities with lands within the Lake Simcoe watershed.

On March 31, 2011, seven months after the regulation was filed, MMAH posted the decision notice on the Environmental Registry.

Summary of Public Comments

Overall, commenters recognized the need for septic systems re-inspection programs.

Defer Start Date:

Almost unanimously, municipalities in the Lake Simcoe watershed asked that the province defer the start date for the inspection programs by a year, for January 1, 2012. They stated, for example, that they would need more time for municipal financial reviews to budget for the proposed programs or for amending building by-laws.

Provide Funding:

Commenters also consistently expressed a number of concerns regarding funding issues and the financial impact on the local authorities responsible for the development and implementation of inspection programs. Local authorities stated that they do not have enough or trained personnel to carry out inspections and that provincial start-up funding would be required to hire and train staff. Some commenters asked the province to provide sustained funding sources for the implementation of such programs and funding to property owners for septic systems repairs, if a system is found to be faulty. They also identified the need for inspection fees to fund ongoing program operating budgets. MMAH responded that the OBC authorizes municipalities to levy fees to cover the cost of inspections. Alternatively, MMAH continued, municipalities may accept inspection certificates from third-party inspectors. The ministry explained that this option would help address municipalities' concerns about scarce resources and time required to conduct inspections.

Mandate Inspections Across Ontario:

Conservation Ontario, commenting on behalf of the province's 36 conservation authorities, stated that the scope of the mandatory inspection programs should be expanded to cover the whole province. Conservation Ontario elaborated that, in addition to assessment reports and the LSPP policies, MMAH should use more trigger mechanisms for mandating septic systems inspection programs, such as existing watershed studies and plans.

Exempt New Systems:

Commenters almost universally asked that newly-installed septic systems be exempt from the inspection program. MMAH did respond to this request. Provisions in the amended regulation specify that septic systems five years old or less do not have to be inspected.

Define Inspection Procedures:

Certain townships expressed their concerns that inspection procedures were not defined in the amended regulation; this, they stated, would compromise consistency of program application in all jurisdictions. MMAH replied that the Province was developing a septic systems inspection protocol, which would be released shortly as a non-regulatory appendix to the OBC. The protocol, MMAH explained, would provide guidance to local authorities as they developed their inspection programs.

SEV

In its SEV consideration document, MMAH stated that the septic system inspection programs will support a regulatory system that enhances environmental integrity and resource conservation.

Other Information*Municipal Experience with Septic Systems Inspection Programs*

Some Ontario municipalities already have septic systems inspection programs in place. The Town of Gravenhurst, for example, charges a fee to inspect septic systems for compliance with the OBC. Its mandatory non-intrusive program runs through the summer months. Huron County ran a pilot voluntary non-intrusive inspection program for two years before introducing a full-scale voluntary program of free intrusive inspections in 2007. The program also offered a grant for property owners who needed to pump out their septic tank. The Huron-Kinloss Township implemented a mandatory non-intrusive septic systems inspection program in 2007. It recouped the inspection fee by adding a flat rate on the tax bills of those property owners that have a septic system.

To prioritize for inspections, municipalities have used a number of triggers, such as the age of the system, risk analysis (properties with no records, proximity to water bodies), surveys and complaints. Many have used a two-level inspection program comprising of an initial visual inspection and an intrusive one if concerns are raised.

The 2006 Ontario Rural Wastewater Centre survey found that of all the septic systems inspected through such programs, about 25 per cent have needed some form of work to address identified problems. The survey results also showed that the cost of repairs for malfunctioning septic systems in jurisdictions that have had an inspection program has ranged from \$300 to \$20,000. According to the survey, a number of municipalities stated that offering or having access to some form of financial assistance was critical to the success of their programs.

Septic Systems Tertiary Treatment Units

In February 2011, MMAH posted a regulation proposal notice on the Environmental Registry (#011-2565) soliciting input on proposed amendments to the OBC to require septic systems in certain geographic areas to be equipped with a tertiary treatment unit to remove pathogens and abate nitrogen and phosphorus. Such a requirement would apply to areas where mandatory inspections programs exist and potentially also to lakes considered to be at capacity from a nutrient loading perspective. MMAH, MOE

and MNR stated that they will work together and consult with the public to identify these lakes. As of May 2012, a decision notice has yet to be posted.

ECO Comment

The ECO has long advocated for a septic re-inspection program. In 2002, the ECO urged MMAH “to encourage municipalities and stakeholders to promote systematic and comprehensive septic re-inspection programs throughout Ontario to ensure that inspectors identify faulty systems before they cause serious ground and surface water pollution problems.” The ECO’s 2008/2009 Annual Report reiterated the need for mandatory septic system re-inspections. This 2011 decision by MMAH to require the re-inspection of septic systems in certain defined areas is a tacit acknowledgement that septic systems can cause health risks for municipal drinking water systems and also environmental problems for overburdened watersheds such as Lake Simcoe. MMAH’s approach is a good, but insufficient, first step as far as environmental protection is concerned.

From a municipal drinking water perspective, the new mandatory septic systems re-inspection requirement is a step in the right direction because it should help to identify and address bacterial contamination risks to municipal drinking water sources.

From a watershed protection perspective, however, the new approach is not adequate. Because of the focus on protecting municipal wellhead areas, the geographic reach of the re-inspection program will be patchy, and will not capture many lakes and streams that are vulnerable to nutrient loadings from septic systems. In many parts of our province, septic systems will continue to discharge nutrients without periodic inspections, with unquantified impacts on aquatic ecosystems. The ECO has received *EBR* applications documenting concerns about malfunctioning septic systems located on cottage lakes. One of these applications concerned Lake Matinenda in northern Ontario, which lies outside not only a defined “vulnerable” area but outside a source protection area altogether (see pages 232-236 of the Supplement to our 2008/2009 Annual Report).

The ECO urges the Ontario government to expand the reach of the septic systems re-inspection program to areas that are ecologically vulnerable to loadings of nutrients, especially phosphorus. Such areas might include heavily developed cottage lakes and oligotrophic watersheds. Both Conservation Ontario in 2010 and the Advisory Panel on Ontario’s Drinking Water Stewardship Program in 2007 recommended expanding efforts beyond municipal wellhead areas. Identifying such ecologically vulnerable areas would be within the mandate and expertise of MOE, rather than MMAH. The ECO discussed MOE’s involvement in lakeshore capacity assessment in our 2010/2011 Annual Report.

The ECO notes that the lack of an inventory of Ontario’s septic systems is a barrier to reducing their environmental impacts over time. An inventory would make it easier to track the environmental impacts of septic systems regionally and over time. An inventory could also provide the baseline for tracking and publicly reporting progress of inspection programs and their effectiveness in protecting water quality. As noted in Chapter 6.3 of Part 2 of the ECO’s 2011/2012 Annual Report, environmental programs should periodically be evaluated for effectiveness.

Review of Posted Decision:

1.6 City of Brockville Official Plan Amendment

Decision Information

Registry Number: 011-4012
Proposal Posted: July 4, 2011
Decision Posted: January 19, 2012

Comment Period: 30 days
Number of Comments: 0
Decision Implemented: February 9, 2012

Keywords: land use planning; species at risk; energy conservation; drainage; wetlands; woodlands; *Planning Act*; official plans

Description

Overview

Municipal official plans guide the use of land in a community. These plans include policies on residential and commercial development, population growth, and infrastructure. These plans can also include environmental policies that allow or prohibit, subject to conditions, development on or near natural heritage features like significant woodlands, wetlands, and habitat of endangered or threatened species. The *Planning Act* directs that official plans must be “consistent with” the Provincial Policy Statement, 2005 (PPS).

In September 2008, the City of Brockville (“Brockville” or the “City”), located in eastern Ontario along the St. Lawrence River, began the process of reviewing and amending its 20 year old official plan. The amended official plan includes policies to “optimize” the use of existing public infrastructure and services through intensification and redevelopment of existing built-up areas, as well as policies to protect the City’s natural heritage system and features, waterfront character and cultural and archaeological resources. On January 17, 2012, the Ministry of Municipal Affairs and Housing (MMAH) approved the proposed official plan, subject to 10 modifications by MMAH, such as revisions to policies pertaining to natural heritage features and functions.

This year, the ECO decided to highlight the importance of instruments as tools for implementing environmental laws and policies, and to remind Ontario residents that they have the right to participate in government decisions about environmentally significant instruments using the *Environmental Bill of Rights, 1993 (EBR)*, (see Chapter 5.1 of Part 2 of the ECO’s 2011/2012 Annual Report for more information). As prescribed instruments under the *EBR*, official plan amendments, approved by MMAH, must be posted on the Environmental Registry for public review. For the purpose of this decision review, given the diversity and breadth of policy areas the official plan addresses, the ECO only reviewed policies in the section entitled “Minimizing our Impact on the Environment.”

Background

City of Brockville:

The City is located along Highway 401 in the County of Leeds and within the 1,000 Islands region, a popular tourist destination. Brockville is a small, rural city with a population of 21,870 in 2011 and is 20.8 square kilometres in size. Brockville is not located within the jurisdiction of any provincial plans such as the Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan, Lake Simcoe Protection Plan or Growth Plan for the Greater Golden Horseshoe.

Planning Act and Provincial Policy Statement:

Under the *Planning Act*, a municipality must review and revise an existing official plan to ensure it conforms with provincial plans, has regard to matters of provincial interest, and is consistent with the PPS. In Ontario, either an upper-tier municipality or MMAH approve official plans under the *Planning Act*. In the case of Brockville, MMAH is the approval authority for this type of official plan amendment.

The PPS contains environmental policies including those that restrict development and site alteration in and around provincially significant wetlands (PSW), significant woodlands, significant habitat of endangered and threatened species, and other features. While the PPS encourages maintenance, restoration or, where possible, improvement of the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, it is not required. The PPS defines a natural heritage system as “a system made up of natural heritage features and areas, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems. These systems can include lands that have been restored and areas with the potential to be restored to a natural state.”

To aid municipalities with implementing natural heritage policies under the one-window planning system, the Ministry of Natural Resources (MNR) created the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (2010). The manual provides recommended technical criteria and approaches for local land use planning. Specifically it provides direction on natural heritage features and areas, natural heritage system planning, and the contents of an environmental impact study. For additional information on the manual, see Part 4.1 in our 2010/2011 Annual Report.

Brockville's Official Plan

After nearly three years in review and development, Brockville's Council adopted a draft official plan in June 2011 and submitted it to MMAH for review and approval. The approved official plan incorporates the results of the City's comprehensive vision and strategic planning exercise to address recent issues and challenges. The official plan's numerous policies provide general direction and a planning framework to guide the physical, social, economic, and environmental management and growth of the City. This section includes: water resources; aquifer and groundwater protection; watercourses; energy efficiency and conservation; natural heritage features and functions; natural heritage and open space system strategy; environmental impact studies; urban forestry; and mineral and aggregate resources policies.

Implications of the Decision

Species at Risk

The official plan's policies for species at risk are consistent with the PPS and the Natural Heritage Reference Manual. For example, the PPS requires that development and site alteration not be permitted in significant habitat of endangered species and threatened species. On land adjacent to significant habitat, development and site alteration are not permitted unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. As a general policy under the official plan, the City shall encourage the protection of species at risk and support the implementation of the relevant findings of recovery strategies.

In addition, MMAH added a policy to Brock's official plan stating that in areas identified as having potential for significant habitat, an ecological site assessment shall be required in support of a planning application to assess the potential for and delineate the extent of the significant habitat. MMAH amended the official plan to identify that MNR had provided the City with a screening map of potential habitat of endangered and threatened species to be used when assessing development applications. To the ECO's knowledge, this is not common practice, and MNR does not provide screening maps to all municipalities in Ontario.

MMAH also required that the official plan specify that on all sites proposed for development or site alteration, a site inventory for butternut trees will be required prior to the disturbance or removal of any trees. When proposing cutting branches or removing any butternut trees, an assessment of health is required and a permit under the *Endangered Species Act, 2007* may be required.

Fish Habitat

Fish habitat policies in the official plan are consistent with the PPS: development and site alteration are not permitted in fish habitat except in accordance with provincial and federal requirements, such as under the federal *Fisheries Act* and the *Endangered Species Act*. In areas adjacent to fish habitat, development and site alteration are not permitted unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions. In the official plan, all watercourses in the City are potential fish habitat – a policy required by MMAH. This means that any development or change in land use within 120 metres of a watercourse shall be reviewed by the City and the Cataraqui Region Conservation Authority, in consultation with Fisheries and Oceans Canada and MNR, to determine the potential impact. It will also

require an environmental impact study. This is consistent with the direction provided in the Natural Heritage Reference Manual for areas where no detailed fish habitat mapping has been completed.

Natural Heritage Systems

The official plan contains a natural heritage inventory for the City, which includes the location of PSWs, significant woodlands, hazard lands and parks in a map/schedule. A natural heritage inventory is a delineation of where natural heritage features and functions are located. In a Draft Sustainability Strategy released in November 2011, the City identified that it aims to prepare a Natural Heritage and Open Space System Strategy in six to ten years. The purpose of the Sustainability Plan is to implement the official plan's goals and objectives related to sustainability. A natural heritage system defines how natural features and functions are or will be connected through links and corridors at a landscape level. The City's natural heritage system strategy would "identify, map and detail natural heritage features, including the form and function of the identified features, and to identify linkages and connections between these features." It also shall reinforce the protection, restoration and enhancement of identified features, and promote the overall diversity and interconnectivity of features, functions and areas. Since the PPS does not require municipalities to identify natural heritage systems, Brockville will be going above the minimum standards when it has established a natural heritage system.

Watershed Plans

Under Brockville's official plan, the City "shall encourage the preparation of watershed and subwatershed management plans and regional stormwater quality/quantity management facilities to assist in water resource and land use planning on an ecosystem basis." The policy states that development and land use change will also require consideration of other matters, such as economic and growth management factors that may not be addressed in watershed or subwatershed plans. Watershed management is the process of managing human activities and natural resources in an area defined by watershed boundaries. Similar to natural heritage systems, the PPS encourages watershed planning by "using the watershed as an ecologically meaningful scale for planning," however, it does not require municipalities to create watershed management plans. Brockville will be going above the minimum standards of the PPS when it has prepared watershed and subwatershed management plans.

Drains

The ECO has previously reported on the policy disconnect between agricultural drainage activities and responsible environmental planning. For example, the PPS allows drainage activities, which remove water from land, within PSWs, features dependant on water to function properly. Despite permissive provincial policy, Brockville's official plan has included direction aimed at reducing the negative impacts of drains on natural heritage features like wetlands. For example, "the City shall, to the extent feasible, ensure that required maintenance of existing drains is carried out in a manner that mitigates the impacts of maintenance of existing drains on Natural Heritage Features and functions." Additionally, when considering applications for permits to take water or initiating projects for drains, the City, in consultation with the Province and/or the conservation authority, "shall be satisfied that the works will be built to ensure no negative impact on Natural Heritage Features and functions", which could include the completion of an environmental impact statement.

Urban Forestry and Tree Planting

The watershed in which Brockville is located has approximately 49 per cent forest cover, with 9 per cent forest interior. The City has identified that "[t]he treed urban landscape is an integral part of the City's green infrastructure." The official plan contains many policies that encourage the planting and preservation of native trees and other hardy non-invasive vegetation throughout the City. For example, the City shall "encourage that, wherever possible and appropriate, trees are replanted to replace trees removed if a development proceeds."

Energy Conservation

Brockville stated that energy efficiency and conservation are an important element of sustainable City policy. The official plan contains many policies aimed at reducing emissions as well as energy consumption and demand. For example, the City will consider energy conservation and efficiency within decision making and operations, and may establish sector-specific targets for energy use reductions. For example, Brockville shall encourage the increased use of electric, hybrid and alternative fuel vehicles by establishing electric plug-in sites for electric vehicles, buying hybrid vehicles for the City's fleet, and encouraging fuel-efficient systems to be installed on all City buses.

Public Participation & EBR Process

MMAH posted the proposed official plan, as approved by Brockville's Council, on the Environmental Registry for a 30 day public review and comment period. MMAH did not receive any comments from the public.

In addition to public consultation requirements for prescribed instruments under the *EBR* such as official plans approved by MMAH, the *Planning Act* also requires public consultation. For example, when preparing an official plan, the municipality shall make the plan available to the public for review and hold at least one open house. The ECO assumes the public did not submit any comments or concerns through the Environmental Registry because comments were submitted directly to the municipality under the *Planning Act* process, as this process occurs first.

SEV

MMAH posted the decision notice on the Environmental Registry on January 19, 2012. On March 23, 2012, the ECO requested that MMAH provide documentation to confirm it had considered its Statement of Environmental Values (SEV) when making the decision to finalize the official plan amendment. On March 28, 2012, MMAH documented its consideration of the ministry's SEV and provided a copy to the ECO. MMAH considered the following SEV environmental principles during the decision making process: ensuring well-planned and healthy communities while protecting greenspace, and increasing and maintaining the supply of affordable housing. For example, MMAH indicated that its decision supports "a land use planning system that promotes sustainable communities while ensuring wise management and use of resources."

ECO Comment

Municipal official plans are important documents that provide local direction on permissible land uses and activities. The ECO is pleased with the environmental policies included in the City of Brockville's new official plan. While the official plan meets the minimum standards of the PPS, in the ECO's opinion it also goes above this baseline to provide additional environmental protection in areas like urban forestry, drains and energy conservation. For endangered species, MMAH amended the official plan to identify that MNR provided the City with a screening map of potential habitat of endangered and threatened species to be used when assessing development applications. The ECO hopes that MNR will provide similar mapping to all municipalities to ensure that endangered and threatened species' habitat is protected in the municipal land use planning process.

The PPS supports the concept of watershed and natural heritage system planning but fails to require it. The ECO has previously recommended that the PPS be amended to address these shortfalls. Natural heritage systems provide municipalities with important information on what core areas, corridors or links to protect, and where to focus restoration efforts. Watershed management plans consider and provide direction on many issues such as water quantity, water quality, and source water protection. Brockville's commitments to natural heritage systems and watershed management plans are admirable. The ECO encourages MMAH and MNR to support the City in implementing these important landscape-level initiatives.

Review of Posted Decision:**1.7 Amendments to the Ontario Low Water Response Policy****Decision Information**

Registry Number: 010-7477
Proposal Posted: August 24, 2009
Decision Posted: January 25, 2012

Comment Period: 45 days
Number of Comments: 10
Decision Implemented: March 2010

Keywords: water quantity; Ontario Low Water Response; water-takings

DescriptionOverview

In the late 1990s, Ontario experienced two successive years of below-average rainfall and above-average temperatures that resulted in some of the lowest water levels and driest soils recorded in Ontario for decades. This situation prompted the provincial government to develop a multi-ministry plan for responding to future low water conditions. The result was the Ontario Low Water Response Plan ("OLWR Plan" or "Plan"), published in 2001. The OLWR Plan is intended to "ensure provincial preparedness, assist in co-ordination of provincial and local efforts, and support local response in the event of a drought." (The ECO reviewed the 2001 Plan in the Supplement to our 2001/2002 Annual Report, pages 143-148; and discussed it in the ECO's 2007/2008 Annual Report, pages 49-56.)

In 2007, the province experienced another summer of extremely low water conditions that resulted in water shortages across much of southwestern Ontario. These low water conditions highlighted some gaps and flaws in the way the OLWR Plan was working. Accordingly, in 2008, the Ministry of Natural Resources (MNR) initiated a review of the OLWR Plan. In March 2010, MNR published an updated version of the OLWR Plan.

The OLWR Plan

Below-normal precipitation, sometimes combined with increased evaporation from higher temperatures, can result in lower lake, stream, groundwater and soil moisture levels. At times, water levels may become too low to meet the demands of all of the water users in the watershed – creating social and economic stress for farmers, industry, businesses and residents – or too low even to sustain aquatic species.

The OLWR Plan sets out an overall strategy, including the specific roles and responsibilities of various provincial and local bodies to monitor for, declare, respond to, and mitigate the effects of, low water conditions.

MNR is the lead body responsible for low water and drought management. However, the Plan is very clear that "water management is a joint responsibility of the provincial government, conservation authorities, municipalities and all water users," and that they must all "work in a cooperative, integrated fashion to develop and implement provincial water policy" (see the box below for a high-level overview of the various roles and responsibilities under the Plan).

Key Players and their Roles under the OLWR Plan

Ministry of Natural Resources (MNR) – this ministry has primary responsibility for low water management and the OLWR policy; collects and analyses streamflow and precipitation data.

Ministry of the Environment (MOE) – this ministry administers the Permit to Take Water program, which requires most water takings over 50,000 litres/day to obtain a permit from MOE.

Conservation Authorities (CAs) – each of the 36 watershed management agencies is responsible for delivering programs to protect and manage water resources within its region; under the Plan, the CA is typically the “leading agency” responsible for declaring early level low water conditions, and for co-chairing the local Water Response Team.

Water Response Teams (WRTs) – a WRT will be formed in any watershed experiencing a low water condition. The team is made up of local representatives from key water using sectors, the local CA, and municipal and provincial government staff. The team is charged with coordinating the low water response activities for its watershed (although it remains the responsibility of each member body to exercise its respective water response functions).

Low Water Committee – A standing inter-ministerial committee, led by MNR, with members from MOE, the Ministry of Agriculture, Food and Rural Affairs, and the Ministry of Municipal Affairs and Housing, that is the provincial-level body responsible for coordinating ministry low water response activities. The Low Water Committee is responsible for: communicating with all WRTs whose watersheds have entered a Level II condition; declaring Level III conditions; and coordinating provincial response efforts during Levels II and III.

Municipalities – may provide public water supplies; have authority to pass and enforce municipal bylaws to restrict residential water use.

Indicators and Thresholds for Low Water Conditions:

The OLWR Plan establishes three levels of low water conditions that require a response under the Plan: Level I, II and III, with Level III being the most severe. The Plan sets out two types of indicators – precipitation and streamflow levels – for measuring water conditions, as well as thresholds for each indicator to signal potential low water conditions (see Table 1).

Table 1: OLWR Indicators and Thresholds for Declaring Low Water Conditions

Condition	Precipitation Thresholds	Streamflow Thresholds
Level I	precipitation is < 80% of the average precipitation for the corresponding 3-month or 18-month period	<i>Spring:</i> monthly flow < 100% of lowest average summer month flow <i>Other times:</i> monthly flow < 70% of lowest average summer month flow
Level II (can only enter from Level I or Level III)	precipitation is < 60% of the average precipitation for the corresponding 1-month, 3-month or 18-month period OR More than 2 weeks (in high water demand areas) or 3 weeks (in moderate water demand areas) with < 7.6mm of rain	<i>Spring:</i> monthly flow < 70% of lowest average summer month flow <i>Other times:</i> monthly flow < 50% of lowest average summer month flow
Level III (can only enter from confirmed Level II)	precipitation is < 40% of average precipitation for the corresponding 1-month, 3-month or 18-month period	<i>Spring:</i> monthly flow < 50% of lowest average summer month flow <i>Other times:</i> monthly flow < 30% of lowest average summer month flow

Source: Adapted from the Ontario Low Water Response Plan (March 2010)

MNR's Surface Water Monitoring Centre is responsible for collecting and analysing the monthly streamflow and precipitation data from the various stream gauge and climate stations located around the province. MNR may also rely on data from other sources – such as climate data from Environment Canada, groundwater data from the Ministry of the Environment (MOE), and additional water monitoring data from conservation authorities (CAs) – to help inform its evaluation of the water conditions.

Level I Condition (Potential Water Supply Problem):

If MNR's Surface Water Monitoring Centre (or, in some cases, the CA) identifies that an indicator may have crossed a threshold for a watershed, the Plan directs MNR to work with the leading agency – usually the CA, but may be the local MNR district office if there is no CA in that area – to verify the watershed conditions based on all the available information.

If the leading agency determines that the watershed (or portion thereof) warrants a declaration of a Level I low water condition, it must establish a local Water Response Team (WRT) if one does not already exist and convene a WRT meeting to discuss response measures.

During a Level I condition, the Plan directs the WRT to encourage water users to voluntarily reduce water use, aiming for a 10 per cent reduction. The local WRT's approach to water conservation will vary by area, but response measures may include, for example, communication measures to encourage voluntary restrictions for non-essential residential water use (e.g., car washing, lawn watering) and outreach to farmers about irrigation practices during a water shortage. The Plan also recommends that the WRT begin preparing for a possible Level II condition by developing a list of all local water takers based on MOE's Permit to Take Water (PTTW) database.

Level II Condition (Potential Serious Water Supply Problem):

As with Level I, it is the responsibility of the leading agency (typically the CA) to confirm if the watershed has entered a Level II condition. During a Level II condition, the WRT continues its role communicating conservation measures and coordinating actions to try to achieve a further 10 per cent reduction in water use (20 per cent total). Response efforts are increased at this stage, such as actions by municipalities to implement (or strengthen) and enforce by-laws to restrict non-essential water use, and actions by MOE to limit new water takings and work directly with PTTW holders to encourage voluntary reductions in water use.

During a Level II condition, the WRT is expected to continue to update information on the watershed (i.e., supply and demand conditions), and begin preparing for a possible Level III condition by: documenting conservation efforts already taken; recording existing and potential social, environmental and economic impacts arising from the low water conditions; and developing recommendations on water use restriction priorities. At this point, the WRT will also begin to engage with the provincial Low Water Committee.

Level III (Drought) Condition (Inability to Meet Water Demand):

Unlike the earlier levels, a Level III condition may only be declared by the provincial Low Water Committee, based on the recommendations of the local WRT and advice of the CA and provincial staff. Level III, moreover, cannot be declared based on the physical thresholds alone; there must also be documentation of social, environmental and economic impacts. Prior to declaring a Level III condition, the Plan states that the Low Water Committee must ensure that the WRT has:

1. implemented conservation and reduction efforts during the Level I and II stages (including municipal restrictions on non-essential uses), clearly documented such efforts, and demonstrated that the majority of water users have participated in these efforts;
2. adequately documented any significant social, environmental and economic impacts arising from current low water conditions; and
3. provided recommendations on priorities for water use restrictions and other reduction activities within the watershed.

As Level III represents the most severe low water condition, the Plan directs an elevated response at this point. The focus switches from a largely voluntary to an increasingly regulatory approach, such as municipal by-laws to restrict water use, and MOE amendments to PTTWs to impose water use restrictions as appropriate. The goal at this stage is to “reduce and manage water use demands to the maximum extent.”

During a Level III condition, the WRT must develop and implement priorities for water use reductions among sectors using “a consensus building process.” The OLWR Plan prioritizes three classes of water uses: essential (i.e., water for drinking, sanitation, health care, wastewater treatment, and “basic ecological functions”); important (i.e., water for socially and economically important purposes, such as agriculture, manufacturing and commercial facilities); and non-essential (e.g., swimming pools, lawn watering, car washing, decorative fountains). However, beyond these basic categories, the Plan states that decisions for prioritizing water uses are best made by the WRT with the support and advice of local water managers and local stakeholders to balance “efficient use, protection of the resource, and equity among users.” The WRT is directed to work with the Low Water Committee to jointly discuss the proposed measures for water use reductions and restrictions, and to actively engage all key decision-makers (municipal, provincial and CA) to ensure that response decisions are supported and enforced.

Although the physical criteria (streamflow and precipitation) for a Level III declaration have been met at various times since the Plan was adopted, the provincial Low Water Committee has never declared a Level III condition.

Amendments to the OLWR Plan

In 2007, extreme low water conditions in several watersheds in Ontario highlighted some gaps and flaws in the way the OLWR Plan was working. Most significantly, CAs, WRTs and others raised concerns about the difficulty achieving and documenting water use reductions during Levels I and II, and in obtaining a Level III declaration. Accordingly, MNR led a review of the OLWR Plan beginning in 2008, including pilot projects with two CAs to assess these concerns.

Following the review, in August 2009, MNR posted a proposal notice on the Environmental Registry setting out some proposed amendments to the OLWR Plan to address a few of the identified concerns. The proposal notice also stated that a “full policy review” to address the remaining program concerns would begin in late fall 2009, and would be posted on the Registry for further public comment.

Despite this commitment, no further proposal notice was ever posted on the Registry. Instead, in January 2012, a final decision notice was posted confirming that the August 2009 proposed amendments had been adopted (with small modifications) in February 2010.

Implications of the Decision

Improving Plan Effectiveness

Several amendments to the OLWR Plan, described below, should help remove some of the roadblocks in the low water response process and help establish better prepared and more effective WRTs.

Shift Responsibility for Declaring Level II Conditions:

Previously, WRTs were responsible for confirming when a watershed entered a Level II condition. Under the new OLWR Plan, the CAs (or MNR District Office) – who are generally better equipped for these roles – are now responsible for verifying watershed conditions and declaring both Level I and Level II conditions. Shifting primary responsibility for these functions from the WRTs to the CA/MNR should facilitate prompter Level II declarations.

Better Access to PTTW Information:

In order for WRTs to satisfy their duty to maintain information on the watershed characteristics, including information on both water supply and demand, the WRTs must have access to accurate data on water

takings within the watershed. In our 2007/2008 Annual Report, the ECO observed that WRTs were facing difficulty obtaining such data.

New language was added to the Plan that explicitly states that MOE will provide PTTW information to the WRTs, including data on actual water takings. This information should provide WRTs with the critical raw data they need to analyze water demand and quantify baseline water use. This in turn should enable WRTs to better prepare for and respond to low water conditions.

More significant than the new language in the Plan, however, is the fact that MOE's data on water-takings has dramatically improved in recent years. As of 2008, all permit holders are required to monitor and annually report to MOE on their daily water-taking volumes from the previous year (under O. Reg. 387/04, the Water Taking Regulation under the *Ontario Water Resources Act*). As such, MOE's Water Taking Reporting System database should now be able to provide WRTs with reliable water-taking information (including actual water volumes taken in previous year, source type, geographic coordinates, etc.) as required by the Plan. (For more information on MOE's PTTW program, see Chapter 4.2 of Part 2 of the ECO's 2011/2012 Annual Report.)

Advanced Planning and Faster Response:

New language has been added to the OLWR Plan to emphasize the importance of advanced planning. The Plan places a greater emphasis on earlier establishment of WRTs and more permanent WRTs, recommending that the leading agency (CA or MNR) establish a WRT for its watershed before a low water condition is declared "as a precautionary measure and to ensure available information is up to date." The Plan highlights that WRTs can, and should, gather general watershed information (e.g., water taking data) during the year before the potential onset of a low water condition, and that WRTs should meet annually "to maintain the team and ensure that the tools and information necessary for drought management are kept current." These amendments, combined with the improved access to water taking information, should promote better prepared WRTs that are able to provide a faster and more effective response if and when a low water condition does arise.

To foster a faster response, new language was also added to recommend that the lead agency (CA or MNR) confirm a Level I condition and convene a WRT meeting within one week of being notified of a potential Level I condition. The previous Plan had no timeline for the initial meeting.

Reduce Conflicts of Interest and Improve Function of WRTs:

One concern with the previous governance structure of the WRTs was that it allowed for potential conflicts of interest among team members, who represent different sectors of major water users.

Previously, each WRT was chaired by a water user member on the team. To improve the functioning of the WRT and reduce potential conflicts of interest, the revised Plan now recommends that the CA (or MNR District) lead the WRT and co-chair the team with one of the water users elected by the WRT. The amended OLWR Plan also includes new language to require WRT members to disclose any potential conflicts of interest, described as situations where either the member or his or her organization's interest may be seen to influence his or her objectivity on the WRT.

Communication with PTTW Holders:

Before a Level III condition can be declared, the WRT is required to document that voluntary water use reductions have been implemented by water takers during the Level I and II conditions. However, to do so, the WRT requires access to information on such water reduction measures. New language in the Plan should make it easier for the CA (on behalf of the WRT) to directly contact permit holders, or to direct MOE to contact permit holders if the CA prefers, to encourage conservation measures as well as request information to verify water use reductions.

Determining Minimum Flows for Ecological Health

The revised OLWR Plan includes new wording throughout the document to better acknowledge the CA's role in determining low water conditions within their watersheds. The document recognizes that some

CAs maintain their own local monitoring networks, and that the CA's data, as well as their local knowledge and experience, may provide better watershed-specific information than MNR's data. The amended OLWR Plan also includes new language encouraging CAs and WRTs to develop local thresholds, such as minimum in-stream flow thresholds for aquatic ecosystem health, to augment the provincial low water thresholds. The document notes that such a threshold could become a Level III indicator for the watershed.

Encouraging CAs and WRTs to develop minimum streamflow thresholds for ecosystem health is a positive step to help protect aquatic ecosystems from the adverse effects of water takings during low water conditions. Maintaining an adequate streamflow (recognizing the natural variability) is important to sustain the ecological health of a watercourse, including fisheries and other biological communities living within them, as well as the quality of the water. To maintain good water quality, streams require a sufficient flow rate to assimilate any pollutants (such as wastewater) being discharged into them.

However, implementing this direction is quite difficult. In 2005, MOE and Conservation Ontario contracted three CAs to undertake pilot studies to investigate means of quantifying ecological flow requirements in Ontario. Yet, even with the results from those projects, CAs are still very much in need of guidance and support from MNR and/or MOE to assist in the task of defining ecological flow requirements and incorporating those into the OLWR program.

Recognizing the Importance of Integrated Watershed Management

The Plan includes new language to recognize the role of "integrated watershed management" in managing water resources, and stress the importance of a more proactive approach to water management to reduce the potential for water systems to reach low water conditions in the first place. While the inclusion of this language is important, the OLWR program is primarily a response plan, not a prevention plan; as such, the true measure of success will be the extent to which integrated watershed management is incorporated into other programs and policies outside the OLWR, such as MOE's PTTW program, provincial land use planning policies and municipal official plans.

Still Waiting for Groundwater Indicators

The original OLWR Plan stated over a decade ago that groundwater indicators would be developed and included in the Plan. In 2008 and 2009, MNR funded pilot projects for five CAs to develop and test groundwater indicators and thresholds for the OLWR program, using the available monitoring data from the Provincial Groundwater Monitoring Network (PGMN). Yet, the 2010 Plan still only states: "Indicators to measure groundwater and aquifer levels have been developed and are now being tested." Groundwater indicators are needed to help identify low water conditions, especially in areas that are heavily dependent on groundwater, and to assess the general state of local aquifers.

Major Policy Issues Yet to be Addressed

Despite the 2010 revisions to the OLWR Plan, major policy issues regarding the OLWR Plan remain unaddressed. In the August 2009 proposal, MNR acknowledged the following outstanding issues and committed to consider them in a subsequent "full policy review" in fall 2009:

- the effectiveness of the program to achieve water use reductions in Levels I and II (including the focus on voluntary reductions during these stages);
- the effectiveness of the information provided to WRTs;
- achieving a Level III declaration; and
- principles for prioritization of water use.

The above list represents some very significant issues. Yet, the promised fall 2009 review did not occur. Instead, in April 2010, MNR stated that the full review was being planned for 2010. As of May 2012, the ECO is not aware of any OLWR review having been initiated.

Climate Change Adaptation:

In addition, the province's April 2010 "Climate Ready, Ontario's Adaptation Strategy and Action Plan" committed to "review the Ontario Low Water Response Program to improve the Government of Ontario's ability to reduce the impacts of drought on water supplies." While low water conditions have historically been relatively uncommon in Ontario (about once a decade), the province acknowledges that the impacts of climate change are expected to result in more low water conditions arising; as such, the Plan needs to be reviewed with the added influence of climate change in mind.

Public Participation & EBR Process

MNR posted the proposal notice for the revised OLWR Plan on the Environmental Registry on August 24, 2009, with a 45-day comment period. During the comment period, MNR received 10 comments from various stakeholders, including CAs, environmental and water-focused groups, an agriculture organization and a municipality. MNR states that a decision to proceed with the proposal as described, subject to some changes in response to public comments, was made February 25, 2010. However, MNR did not post a decision notice for the Plan on the Registry until January 25, 2012.

As noted above, the proposal notice stated that MNR would publish another notice with a revised draft of the Plan for further public input after a fall 2009 policy review. However, no updated policy was ever posted. While the decision notice ultimately posted on the Registry provided a useful summary of the changes made as a result of the consultation, it failed to explain, or even acknowledge, the two year delay in posting the decision notice or to explain what had become of the promised fall 2009 review. Such failures to post a timely and complete decision notice confuse the public and undermine the usefulness of the Registry as a reliable source of information.

Summary of Comments

All of the commenters expressed general support for the amendments, with some noting that the clarifications and revisions to the Plan – such as the amendments to make the CA/MNR responsible for declaring Level II conditions, and clarification of the roles of MNR and MOE for data collection – should improve the function of the program. Commenters, however, raised a number of concerns about specific wording and details in the draft document. In response, MNR made several wording changes to revise or clarify language in the final Plan, including the following:

- *WRT chairs:* in response to comments that it may not always be suitable for the CA to co-chair the WRT, MNR revised the Plan to allow WRTs the flexibility to choose to have the CA co-chair the team.
- *Timeline for initial WRT meeting:* in response to comments that the proposed one-week timeline for convening a WRT meeting may be too short (e.g., where a WRT does not already exist), MNR revised the Plan to recommend, rather than require, the one-week timeline.
- *Advanced planning:* in response to suggestions for more emphasis on advanced planning, MNR added language throughout the Plan to stress the importance of WRTs meeting and preparing before low water conditions arise.
- *CA monitoring role:* in response to a suggestion by one commenter, MNR added language to acknowledge that some CAs have their own monitoring networks and may in fact detect low water conditions before MNR.
- *Conflict of interest:* several commenters raised concerns about the proposed conflict of interest provision, which would have prevented WRT co-chairs from participating in discussions that may present a conflict of interest. Commenters stated that such a limitation on a co-chair's participation in dialogue would hinder that person's ability to represent their sector on the team, and could discourage WRT members from becoming co-chair. MNR rewrote the conflict of interest provision to require WRT members to declare any potential conflicts of interest and for the team to recognize such conflicts.

- *Contact with permit holders:* in response to requests from a few CAs that MOE retain responsibility as the primary contact with PTTW holders during a low water response, MNR included a sentence in the Plan to note that either the CA (on behalf of the WRT) or MOE, at the preference of the CA, will contact permit holders.

Other Comments Not Addressed

In addition to the issues described above, commenters raised a variety of substantive issues with respect to the OLWR program that were not addressed. In the decision notice, MNR stated that these comments were outside the scope of the current review, but that MNR would consider these unresolved comments in “any subsequent program review.”

Integrated Watershed Management:

Commenters supported the new language in the OLWR Plan that acknowledges the importance of integrated watershed management. However, a number of commenters expressed the need for the province to go beyond the rhetoric – both within the OLWR program and through other programs – in implementing integrated watershed management in Ontario.

More Proactive Management of Water Takings:

In a related concern, a few commenters expressed the need for the program to place a stronger emphasis on proactive management of water takings. In particular, commenters stated that, in stressed areas, MOE should: deny new or increased water takings; consider mandatory reductions of existing permit holders; strictly prohibit water extraction for non-essential uses (and instead advocate water harvesting for these uses); increase enforcement of PTTWs; and generally ensure that water takers are not being permitted to take more water than is available.

Ecological Water Needs:

A few commenters urged MNR to include a greater emphasis in the Plan on ecological needs when prioritizing water uses. For example, two commenters stated that the language in the Plan describing “essential” water uses – which includes “water necessary for basic ecological functions” – does not adequately reflect the water necessary for thriving, healthy ecosystems. A few commenters also expressed a strong need for additional guidance from MNR to develop indicators and minimum flow thresholds for ecological needs, noting that quantifying thresholds for ecological needs is very difficult.

Declaration of Level III Condition:

Several commenters raised concerns about the “prohibitive” requirements and process for declaring a Level III condition. One commenter asserted that the requirement for WRTs to demonstrate that voluntary reductions have taken place before a Level III may be declared is “short-sighted” since, if water users choose not to reduce takings, a Level III can never be declared. They further stated that it is very difficult to determine and describe social and economic impacts in the short timeframe required to make a timely Level III declaration. One CA urged the province to consider implementing an earlier recommendation from its 2008 review to make the CA and MNR responsible for declaring a Level III based on the physical drought conditions.

Removal of “Voluntary” is Misleading:

One commenter stated that the change in terminology in the Plan for the Level I water use reductions – from “voluntary” to “initial” water use reductions – could be misleading, given that the change has no substantive effect and the reductions remain voluntary.

Absence of Clean Water Act, 2006:

Several commenters expressed disappointment and confusion at the failure to include reference to the *Clean Water Act, 2006*, and the water budget process being implemented under this Act, into the OLWR Plan, given the potential of that process to support the OLWR program.

SEV

In its SEV consideration document, MNR provided a very detailed summary of how ministry staff considered each of the ministry's SEV principles in the context of the revised Plan, including:

- Changes to the OLWR Plan to ensure WRTs prepare earlier, as well as changes to emphasize a proactive approach to water management outside the OLWR program, both support the precautionary principle and a proactive approach;
- New language encouraging the research and development of indicators to better define minimum flows necessary to sustain the ecosystem supports the understanding of ecological systems and improving environmental sustainability;
- The OLWR Plan reflects the goal to consider ecological, social and economic values; it is designed to protect both the natural environment and human, social and economic systems from the impacts of low water conditions; and
- Changes to the Plan to recommend adoption of integrated watershed management supports an ecosystem approach.

Other Information*Water Budgets under the Clean Water Act, 2006*

Over the past couple of years, source protection committees (led by CAs) have developed water budgets for most of the high-use watersheds in Ontario, in fulfillment of the requirements under the *Clean Water Act, 2006*. These water budgets analyse the volumes of water stored, entering and leaving the watershed, with the intent of trying to identify how much water is available for human use, while ensuring there is enough water to maintain ecological systems.

The *Clean Water Act, 2006*, however, is a single issue Act created to protect municipal drinking water sources. As such, water budgets are primarily focused on watersheds that are a source of municipal drinking water. Nevertheless, where water budgets have been developed, they can provide very useful tools to assist WRTs in planning and responding under the OLWR Plan, as well as assist MOE with allocation decisions under the PTTW program.

ECO Comment

Severe low water conditions can have severe implications. As many farmers, businesses and residents in southern parts of the United States have discovered in recent years, droughts can cause significant social and economic stress. Moreover, severe low water conditions can have major, negative impacts on the functioning of aquatic ecosystems. While Ontario fortunately does not suffer the same water woes as the southern United States, Ontario is not immune to the threats of low water or drought conditions, especially when considering the changing climate.

An effective OLWR Plan is critical to ensure that the responsible agencies and bodies have the means and tools to respond efficiently if and when low water conditions arise. The 2010 amendments to the OLWR Plan – including the revisions to support a better flow of information, encourage more planning in advance, and shift roles and responsibilities to more appropriate bodies – should help improve the effectiveness of the low water response process.

In addition, while not necessarily reflected in the amended OLWR Plan, MNR, MOE and the CAs have been making progress, albeit slowly, on addressing some of the important technical gaps in the OLWR program. These agencies have led multiple pilot projects to evaluate and address monitoring issues, develop and test groundwater indicators, and develop ecological flow indicators, which should help improve the overall effectiveness of the OLWR program.

However, there is still a long way to go. The ECO is troubled that a number of significant policy issues with the OLWR program remain unaddressed. In our 2007/2008 Annual Report, the ECO, like many

others, expressed major concerns about the prohibitive hurdles to obtain a Level III declaration. Citing examples of streams that had completely dried up without a Level III condition being declared, the ECO stated “clearly the mechanisms of the OLWR Plan were not working.” The 2010 amendments to the Plan do very little to resolve this problem.

The revised Plan continues to focus on voluntary reductions for Levels I and II (notwithstanding the amendments to remove all references to the word “voluntary”, which may mislead some readers of the Plan to think otherwise). With a focus on voluntary measures, WRTs have little power to ensure that the majority of water users participate in conservation and reduction efforts, a prerequisite for a Level III declaration. Moreover, even if most water users do implement voluntary measures to reduce water use, it is exceedingly difficult for WRTs to document these efforts (particularly in a timely manner), as well as document the social and economic impacts of the low water conditions, which are also requirements for a Level III declaration.

When a drought hits a region, time is of the essence. Yet, the Plan’s onerous requirements for a Level III declaration could take WRTs weeks to undertake (especially if the drought coincides with staff’s summer vacations), allowing serious damage to occur before necessary response measures begin. The ECO is extremely concerned that when the next severe drought hits Ontario, the province will not be in a position to respond appropriately. The ECO strongly urges MNR to fulfill its promise to review and address the Plan’s significant barriers to drought response.

The ECO has also, in a number of past reports, criticized the failure of MOE’s PTTW program to include methods for prioritizing the allocation of PTTWs or for considering the cumulative impacts of water takings to better prevent low water conditions. The ECO believes that it is preferable to manage water takings proactively than to implement restrictions on PTTW holders after low water conditions have arisen. The water budgets recently established under the *Clean Water Act, 2006*, should provide a valuable tool to inform MOE decision making with respect to the capacity of watersheds to support water takings. The ECO strongly urges MOE to use available water budget information in the review of each PTTW application to ensure that permits are issued in a manner consistent with ecosystem health and the long-term sustainability of the watershed (for more on this issue, see Chapter 4.2 of Part 2 of the ECO’s 2011/2012 Annual Report).

Finally, the ECO reminds the province of the necessity to provide CAs and WRTs adequate support (both financial and technical) to enable them to properly execute their various functions under the Plan. For example, while the ECO is pleased that CAs and WRTs will be provided with better data from MOE’s water taking database, the teams require sufficient capacity to analyze this raw data into useful watershed information. Similarly, the ECO supports the new direction in the Plan encouraging CAs to develop indicators for ecosystem health; however, the CAs require provincial-level guidance and support to undertake this challenging activity. Lastly, the ECO urges MNR to invest whatever resources and efforts are necessary to finally get those promised groundwater indicators up and running.

Review of Posted Decision:

1.8 Amendments to Remove and Re-designate Parts of Wolf Lake Forest Reserve, and Replace those Parts with Additions to Chiniguchi Waterway Provincial Park

Decision Information

Registry Number: 010-7775
Proposal Posted: June 01, 2011
Decision Posted: March 13, 2012

Comment Period: 47 days
Number of Comments: 296
Decision Implemented: March 13, 2012

Keywords: protected area; forestry; mining

Geographic Area: Townships of Mackelcan and Rathbun

Description

In 1990, MNR commissioned a life science resource assessment of five areas in Ontario containing old white and red pine, including the Wolf Lake site located approximately 50 kilometres northeast of Sudbury. The report found that the Wolf Lake site represents the largest contiguous area of red pine older than 140 years in the site region, and that the association of dense red pine overstories with abundant white pine regeneration is unique to the area. Moreover, the report concluded that “the Wolf Lake site is unique, in relation to the other five areas assessed, given its contiguous stands of mature red pine, its fire history, and its viewsapes.” MNR also states that this area “may be the largest remaining contiguous old growth red pine dominated forest in North America.”

In 1999, MNR released Ontario’s Living Legacy (OLL) Land Use Strategy, which recommended the creation of 378 new protected areas on Crown lands in Ontario. It was later determined, however, that 66 of these proposed provincial parks and conservation reserves either already had mining claims or leases when they were proposed, or were staked before the Ministry of Northern Development and Mines (MNDM) withdrew these areas from eligibility for staking for the purpose of mineral exploration and development.

One of the protected areas proposed in OLL that contained land with existing mining claims was Chiniguchi Waterway Provincial Park. In 1999, lands within this proposed park that overlapped with existing mining claims and leases were designated as three forest reserves, one of which is Wolf Lake Forest Reserve, which then covered 4,099 hectares (ha). In the OLL land use planning process, MNR identified forest reserves as “areas where protection of natural heritage and special landscapes is a priority.” This interim land use planning direction prohibits commercial timber harvesting, and, once pre-existing mining claims or leases are retired through normal processes, the intention has been for these sites to be regulated as protected areas. Wolf Lake was therefore intended to eventually be regulated in its entirety as part of Chiniguchi Waterway Provincial Park once mineral rights reverted to the Crown. Shortly after the Wolf Lake Forest Reserve was created, mining claims covering 1,773 ha within it lapsed; these lands were then withdrawn from staking and added to the park by MNR.

In 2002, MNDM and MNR began considering options for addressing forest reserves in a process referred to as “mining disentanglement.” Over the next several years, the Ontario Prospectors Association and the Partnership for Public Lands were tasked with developing recommendations for the government to separate pre-existing mining lands from the recommended protected areas on a total of 66 sites. These groups provided joint recommendations on 55 sites, but they could not reach consensus on the remaining 11 sites; one of the sites for which agreement was not reached was the Wolf Lake Forest Reserve. The government subsequently developed proposals for these remaining 11 sites.

In 2005, MNR posted an information notice on the Environmental Registry reflecting the government’s proposed approach for the 66 disentanglement sites. For Wolf Lake, MNR proposed removing the forest reserve designation, re-designating the area to a general use area or enhanced management area, and seeking replacement lands to add to nearby protected areas.

In June 2011, MNR proposed changes to the Wolf Lake Forest Reserve land use designation. Pre-existing mining claims and leases still prevented its regulation in its entirety as protected area. MNR proposed:

- The Forest Reserve land use designation be removed from the reserve’s mining lease areas (340 ha of which generally coincides with the old growth red pine location) and re-designated as a general use area. Commercial forestry in the 128.4 hectare old growth red pine area would still be prohibited. Comparable old growth red pine communities of equivalent size would be added as a contiguous (unbroken) addition to Chiniguchi Waterway Provincial Park.

- The Forest Reserve designation remain in place for land with mining claims that surround the mining leases (1002.9 ha) and when claims retired through normal processes, the land be added to Chiniguchi Waterway Provincial Park.
- The southern Matagamasi Lake portion of Wolf Lake Forest Reserve (1030.6 ha) be dropped and become part of the surrounding Chiniguchi River North Area, an enhanced management area, a recreation category that recognizes and protects important recreational, tourism and resource features in the area. MNR proposed that replacement land of equal area be added as a contiguous addition to Chiniguchi Waterway Provincial Park.
- Replacement land (737.2 ha), containing 238.3 ha of representative old growth pine, from former Sturgeon River Forest Reserve form part of the replacement land for addition to Chiniguchi Waterway Provincial Park.

This proposal was consistent with MNR's new overall direction for Crown lands; the ministry's Crown Land Use Planning Manual (2011) directs that the number of forest reserves be reduced through planning processes and that the long-term objective is to eliminate the usage of forest reserves entirely.

In March 2012, MNR decided not to proceed with its proposal and to retain the forest reserve designation for Wolf Lake.

Implications of the Decision

MNR's decision to retain the forest reserve land use designation results in the *status quo* being maintained at the site; commercial timber harvesting is prohibited, but existing mineral tenure remains. If the proposal had proceeded, the majority of lands at the Wolf Lake site would have become available for commercial timber harvesting in the future; mineral exploration also would be allowed to proceed and the lands would no longer be subject to a withdrawal order that constrained new activity.

Public Participation & EBR Process

MNR received 296 comments from the public during the proposal's 47-day consultation period. The public comments overwhelmingly opposed the ministry's proposal; many different organizations and individuals commented that MNR should permanently protect Wolf Lake from both commercial timber harvesting and mineral development, ideally through its designation as a regulated protected area. Two forest management companies commented that they had no objections to the ministry's proposal.

SEV

MNR states that it considered its Statement of Environmental Values (SEV) in reaching its decision.

Other Information

In January 2008, two applicants requested that MNR regulate the Wolf Lake Forest Reserve as a protected area under the *Provincial Parks and Conservation Reserves Act, 2006 (PPCRA)*. The ECO forward the application to MNR and MNDM, both of which denied the review. (For further discussion, see Section 5.4.2 of the Supplement to the ECO's 2008/2009 Annual Report and pages 59-61 of the ECO's 2008/2009 Annual Report.)

ECO Comment

More than two decades have passed since Wolf Lake's old growth red pine forest was identified by MNR as warranting protection. Over time, some of this area has been incorporated into Chiniguchi Waterway Provincial Park. However, for the remainder of the area, mining claims and leases continue to prevent its

regulation as a protected area. The result is that the future of this ecologically significant site remains uncertain.

MNR is responsible for the management of Crown land, including the creation of protected areas. MNDM is responsible for the management of mineral exploration and development. Both ministries are prescribed under the *Environmental Bill of Rights, 1993*, a central purpose of which is the “identification, protection and conservation of ecologically sensitive areas or processes.” However, neither ministry has yet to fulfill the government’s long-standing commitment to permanently protect Wolf Lake’s old growth forest.

In our 2008/2009 Annual Report, the ECO recommended that MNR and MNDM develop the necessary regulatory mechanisms and policies to allow lands to be protected in cases where environmentally significant sites and mineral tenure conflict. Neither ministry has acted upon this recommendation, resulting in a foreseeable public outcry when MNR proposed that Wolf Lake’s land use designation be changed from its status as a forest reserve, with the long-term objective to regulate the site as a protected area, to that of general use which allows both mineral development and commercial timber harvesting.

The ECO believes that the *Mining Act* warrants amendments that grant the Minister of Northern Development and Mines the authority to revoke or not renew mining leases and claims that conflict with the public interest. At issue are public resources on Crown lands that the Government of Ontario is trusted with managing in the public interest. Without such a legal mechanism, to be used sparingly and judiciously by government, uncertainty exists because of conflicting land uses and the lack of mechanisms to resolve them. For example, such a tool would also then be available for government to address concerns raised by First Nations in their traditional territories, as has occurred recently.

Also, in our 2008/2009 Annual Report, to specifically resolve the issues at Wolf Lake, the ECO urged MNDM to offer reasonable settlement to individuals holding conflicting claims and leases so that the lands could be withdrawn and then regulated as a protected area. Since that time, on several occasions in other parts of the province, the Government of Ontario has reached agreements with other mineral exploration companies to surrender their claims and leases to resolve conflicting land uses. The ECO believes that this short-term solution should be seriously weighed, until such time that the Government of Ontario makes the necessary changes to the *Mining Act* to enable revocation or the non-renewal of mining leases and claims.

Review of Posted Decision:

1.9 Bats and Bat Habitats: Guidelines for Wind Power Projects

Decision Information

Registry Number: 010-9521
Proposal Posted: April 6, 2010
Decision Posted: August 5, 2011

Comment Period: 52 days
Number of Comments: 68
Decision Implemented: July 29, 2011

Keywords: bats; wind power; renewable energy approval; environmental effects monitoring plan; significant wildlife habitat; natural heritage

Description

Overview

Harnessing wind as a renewable energy source is an important component of Ontario's long term energy plan. However, one downside to using wind power is the risk of harm to wildlife in the vicinity of wind turbines. Bats are particularly susceptible; in recent years, bat fatalities have been documented at wind power facilities across North America. Because of this vulnerability, proponents of wind power projects in Ontario with a name plate capacity of 50 kilowatts or more must follow special rules to ensure that bats and their habitats are protected.

In July 2011, the Ministry of Natural Resources (MNR) released "Bats and Bat Habitats: Guidelines for Wind Power Projects" (the "Guidelines"). Applicants seeking approval of wind power projects must conduct their natural heritage assessments and prepare environmental effects monitoring plans for bats in accordance with these Guidelines.

Background

Bats and Wind Turbines:

Bats are a vitally important component of Ontario's biodiversity. With some bat species eating half their body weight or more in insects in a single night, bats play an important role in pest control and protecting agricultural crops from damaging infestations. Not only are these nocturnal creatures – the only mammals that can fly – key players in our ecosystem, but their life histories and use of echolocation make them truly unique animals.

Ontario is home to eight species of bats:

- big brown bat (*Eptesicus fuscus*);
- eastern pipistrelle (*Pipistrellus subflavus*);
- eastern red bat (*Lasiurus borealis*);
- eastern small-footed bat (*Myotis leibii*);
- hoary bat (*Lasiurus cinereus*);
- little brown bat (*Myotis lucifugus*);
- northern long-eared bat (*Myotis septentrionalis*); and
- silver-haired bat (*Lasionycteris noctivagans*).

Bats are under increasing pressure due to the recent emergence of white nose syndrome (see box) and the rising number of wind turbines on the landscape; their low reproductive rate makes bat populations even more vulnerable.

At the time of writing, none of Ontario's bats are identified as being at risk under the *Endangered Species Act, 2007*. However, in May 2012, Ontario's Committee on the Status of Species at Risk in Ontario (COSSARO) met to assess the status of four bat species believed to be at risk. Three of those species were assessed as endangered by a federal advisory body earlier in 2012, due to unprecedented mortality caused by white nose syndrome. The outcomes of COSSARO's assessments have not yet been made public.

The rapid growth of wind power development around the world – Ontario alone saw an increase from approximately 9 to over 900 wind turbines between 2003 and 2011 – brought with it an unexpectedly high rate of bat fatalities at some wind energy sites (in Ontario, the mortality rate is estimated at between 4 and 14 bats per turbine per year). In fact, bat fatalities far outnumber bird fatalities at wind turbines (approximately 2.5 birds are killed per turbine per year in Ontario). As we have come to learn, bats are not only at risk of injury or death from colliding with moving turbine blades, but they can suffer internal haemorrhaging ("barotrauma") from exposure to rapid changes in air pressure near the tips of spinning

blades. Wind power projects may also cause habitat loss for bats if turbines are located near swarming, hibernation or roosting sites, or in migratory stopover areas.

Wind turbines are most dangerous for long-distance migratory bat species such as the hoary bat, eastern red bat and the silver-haired bat. Migratory bats, which roost in trees, comprise approximately 75 per cent of documented fatalities at wind turbines in North America. Ninety per cent of bat fatalities occur from mid-July through September, peaking during autumn migration.

White Nose Syndrome Poses Devastating Threat

“White nose syndrome” has recently emerged as a significant threat to the very survival of many bat species in Ontario and across North America. The syndrome is a devastating and rapidly spreading condition characterized by white fungus that grows on infected bats while they hibernate. The condition, caused by the fungus *Geomyces destructans*, wakens bats during hibernation, causing them to deplete their energy stores in winter when food is not available. With a mortality rate approaching 100 per cent in some hibernacula (i.e., hibernation sites such as caves and mines) and no known cure or treatment, white nose syndrome has been referred to as “the worst wildlife health crisis in memory.”

The syndrome was first documented in 2006 in New York State. It was found in Ontario for the first time in March 2010, and confirmed at additional Ontario locations in 2011 and 2012. In January 2012, the U.S. Fish and Wildlife Service estimated that the disease had killed between 5.7 and 6.7 million bats in the eastern U.S. and Canada.

MNR has acknowledged that white nose syndrome “has the potential to devastate Ontario bat populations as it has done in the northeastern US.” The syndrome is known to affect five of Ontario’s eight bat species: the big brown bat; eastern pipistrelle; eastern small-footed bat; little brown bat; and northern long-eared bat – all hibernating species that are less at risk from wind turbines than their migratory counterparts. MNR has reported that it is monitoring sites where bats hibernate for signs of white nose syndrome, promoting practices to prevent the spread of the fungus, and working with other jurisdictions “to ensure a coordinated approach to monitoring and prevention” of the syndrome.

Regulation of Wind Power Projects in Ontario:

The requirements for establishing a wind power project in Ontario are set out in O. Reg. 359/09, the Renewable Energy Approvals Regulation made under the *Environmental Protection Act* (“REA Regulation”).

All renewable energy approval (REA) applicants must conduct a “natural heritage assessment” for their project. A natural heritage assessment comprises the following:

- **Records review** – A desktop search and analysis of various records to identify any natural features such as wetlands, woodlands and wildlife habitat that are known to be present within 120 metres of the proposed project location. This would include, among many other things, a review of MNR’s online Ontario Renewable Energy Atlas, which includes a layer identifying known bat hibernacula in Ontario.
- **Site investigation** – A physical investigation of air, land and water within 120 metres of the project location to identify any additional natural features that were not identified during the records review; for example, a previously unknown bat hibernacula could be identified during the course of the site investigation.
- **Evaluation of significance** – An assessment of the “significance” of any natural features identified during the records review and/or site investigation. “Significant wildlife habitat” for bats includes hibernacula, maternity colonies and migratory stopover areas.

- **Environmental impact study** – Developing renewable energy projects in “significant” natural features or within a feature’s regulated setback (usually 120 metres) is prohibited, unless the proponent conducts an environmental impact study that identifies potential negative effects and explains how they will be mitigated. A proponent may elect, before or after undertaking an evaluation of significance, to move the proposed project location outside of the prescribed setback of a natural feature, in which case an environmental impact study would not be required.
- **Environmental effects monitoring plan** – Proponents of all Class 3 and 4 wind power projects (i.e., facilities with a name plate capacity of 50 kilowatts or more; see Table 1) – regardless of project location – must complete an extra step in the natural heritage assessment process: they must prepare an environmental effects monitoring plan specific to bats and bat habitats (there is an equivalent requirement for birds; see “Other Information” below). The environmental effects monitoring plan must, among other things, establish a program for post-construction monitoring to identify negative environmental effects on bats.

While the Ministry of the Environment (MOE) is the approval body for REAs, MNR is responsible for reviewing all natural heritage assessment reports and confirming whether they were conducted according to MNR criteria and procedures. MNR may also provide comments to MOE on environmental effects monitoring plans for birds and bats. Further, while there is no official role for MNR once a REA is issued, it is expected that MNR will assist MOE by reviewing and assessing information found in annual bat monitoring reports, and ensuring data is submitted to the Wind Energy Bird and Bat Monitoring Database.

In 2011, MNR released the “Natural Heritage Assessment Guide for Renewable Energy Projects,” which establishes criteria and procedures for completing the natural heritage assessment process for REAs. For more information, refer to Section 1.12 of this Supplement.

Table 1. Classes of Wind Facilities in Ontario (Source: O. Reg. 359/09, section 6, Table.)

Class of wind facility	Location of wind turbines	Name plate capacity of the facility (expressed in kW)	Greatest sound power level (expressed in dBA)
Class 1	At a location where no part of a wind turbine is located in direct contact with surface water other than in a wetland.	≤ 3	Any.
Class 2	At a location where no part of a wind turbine is located in direct contact with surface water other than in a wetland.	> 3 and < 50	Any.
Class 3	At a location where no part of a wind turbine is located in direct contact with surface water other than in a wetland.	≥ 50	< 102
Class 4	At a location where no part of a wind turbine is located in direct contact with surface water other than in a wetland.	≥ 50	≥ 102
Class 5	At a location where one or more parts of a wind turbine is located in direct contact with surface water other than in a wetland.	Any.	Any.

Offshore wind power development put on hold

Under the REA regulation, the special requirements to consider effects on bats and bat habitats apply to Class 3, 4 and 5 wind power projects (see Table 1, above). However, Class 5 projects are those that would be located offshore; in February 2011, the Ontario government suspended the approval of offshore wind projects indefinitely “while further scientific research is conducted.”

The Guidelines were finalized after the offshore moratorium was announced, and only apply to Class 3 and 4 wind power facilities.

Bats and Bat Habitats: Guidelines for Wind Power Projects:

The Guidelines finalized in 2011 set out specific criteria and procedures to be used by proponents of Class 3 and 4 wind power projects in conducting natural heritage assessments and preparing environmental effects monitoring plans in respect of bats and bat habitats (e.g., specific directions for identifying and evaluating potential bat habitat during a site investigation; detailed methodology to be used for post-construction monitoring). These finalized Guidelines mark the end of four years of interim direction for wind power proponents: “developmental working draft” guidelines were first released in 2007, followed by a new set of draft guidelines in 2010, which MNR directed proponents to use until the final Guidelines were approved.

Some key aspects of the Guidelines include:

- **Encouraging proponents to apply setbacks to all bat habitats.** The Guidelines specifically encourage REA applicants to apply setbacks to bat habitat “as the first option.” Locating a proposed project outside of the 120 metre setback from bat habitat would eliminate the need to undertake an evaluation of significance or environmental impact study.
- **Prohibiting placement of wind turbines within 1,000 metres of hibernacula.** The initial proposal defines bat significant wildlife habitat as extending 200 metres from hibernacula, consistent with MNR’s Significant Wildlife Habitat Technical Guide, but this distance was increased to 1,000 metres in the final Guidelines. Only turbines are prohibited within the 1,000 metres; other aspects of the project (e.g., roads and transmission lines) could still be located in the habitat provided an environmental impact study is conducted. The 120 metre setback established in the REA Regulation must be applied from the edge of the 1,000 metre mark from hibernacula.
- **Eliminating pre-construction monitoring.** The 2007 developmental working draft guidelines required wind power applicants to undertake extensive pre-construction monitoring, including the use of radar to identify bat migratory or flight paths at some sites. Under the new Guidelines, proponents are only required to undertake limited monitoring as part of the evaluation of significance of identified potential bat hibernacula and maternity roosts. MNR stated that the 2007 requirements for pre-construction monitoring were removed from the final Guidelines because “results indicate that [pre-construction monitoring] information was not useful to assessing the impact of wind turbine development on bats.”
- **Establishing a three-year post-construction monitoring program.** All Class 3 and 4 wind power projects – not just those located within the 120 metre setback of bat habitat – must conduct three years of post-construction bat monitoring, from May 1 to October 31 annually (i.e., to cover spring activity through fall swarming and migration). Monitoring requirements include: regular bat mortality surveys around turbines; monitoring bat carcass removal rate by scavengers; and monitoring searcher efficiency (i.e., the effective rate of workers searching for bat carcasses). For projects that are located within the regulated 120 metre setback of bat habitat, “disturbance effects monitoring” must also be conducted to assess any disturbances specific to that habitat.

The Guidelines do not provide any direction on monitoring or handling any injured bats found near wind turbines.

- **Establishing a “mortality threshold” of 10 bats/turbine/year.** This threshold is averaged across the site, and is calculated using a formula that corrects for estimated rates of carcass removal by scavengers and searcher efficiency. If the threshold is exceeded, bat mortality will be considered to be “significant.” The threshold does not distinguish between species. This mortality threshold replaces the 2007 guidance, which gave the rather vague advice that “significant bat mortality is considered to be unexpected or unanticipated increased levels of mortality in comparison to other bat mortality surveys throughout North America.”
- **Dictating post-construction operational mitigation measures.** If significant bat mortality is identified through post-construction monitoring (i.e., the mortality threshold is exceeded), “operational mitigation” is required from July 15 – September 30 annually (i.e., during fall migration) for the duration of the project. Operational mitigation consists of changing the wind turbine cut-in speed to 5.5 metres/second, or feathering wind turbine blades below that speed, so that turbine blades do not rotate in low wind speeds when bats are most active. MNR contends that “this mitigation is deemed to be the best approach, based on studies that identify up to 70% reduction in fatalities and only a 0.3 – 1% loss of energy production.” If operational mitigation measures are triggered, an additional three years of effectiveness monitoring is required.
- **Requiring contingency plans.** Applicants must identify contingency mitigation and monitoring measures to be implemented in the event that operational mitigation is not sufficient to reduce significant bat mortality. The Guidelines state that “the applicant will work with MNR to determine additional mitigation and scoped monitoring requirements.”
- **Data and information sharing.** All monitoring data is to be submitted to the Wind Energy Bird and Bat Monitoring Database (a partnership project involving MNR and other agencies), where it will be “analyzed, reported and used to address knowledge gaps and create public data summaries.” Further, carcasses of any of the five species susceptible to white nose syndrome found during mortality surveys may be sent to the Canadian Cooperative Wildlife Health Centre for analysis.

Implications of the Decision

Certainty in the Process

With these Guidelines, wind power proponents and the general public now have more certainty about what proponents are expected to do (and not do) to ensure that bats and their habitats are considered and protected as part of the REA approvals process.

More Data on Bats

Compiling all bat monitoring data in a central database could fill some knowledge gaps, helping experts to better understand Ontario’s bat populations and the effects of wind power on those species. Similarly, using post-construction monitoring work as an opportunity to sample bat carcasses for white nose syndrome could assist researchers in tracking, understanding and potentially combatting that devastating disease.

Greater Emphasis on Protection

The Guidelines place a priority on avoiding development in or near bat habitats, by encouraging proponents to locate projects outside of regulated setbacks as a “first option.” By contrast, the Natural Heritage Assessment Guide for Renewable Energy Projects treats relocating a project to avoid a natural heritage feature as an “alternative” to evaluating the feature’s significance and undertaking an environmental impact study (refer to the ECO’s review of the Natural Heritage Assessment Guide in

Section 1.12 of this Supplement). Further, these Guidelines enhance the protection for bat hibernacula provided in the REA Regulation and other MNR guidance by effectively prohibiting the placement of wind turbines within a kilometre of hibernacula.

However, some serious gaps in the Guidelines (discussed below) may still expose bats to continued vulnerability.

The Most At-Risk Species are Least Protected

MNR acknowledges that migratory bat species are the primary victims of wind turbine deaths, yet the Guidelines focus on evaluating and protecting hibernacula and maternity colonies – used by non-migratory species less likely to be injured or killed by wind turbines – instead. MNR's rationale for excluding any evaluation of migratory stopover areas is that the Significant Wildlife Habitat Technical Guide does not define criteria for confirming bat migratory stopover areas, and so those areas "cannot currently be evaluated." In effect, the Guidelines allow proponents to select wind power project locations without regard to potential bat migratory corridors in the vicinity. MNR has indicated that it is working on a "Bat Migratory Habitats Analysis," and that information from this analysis may be incorporated into the Guidelines in the future.

No Consideration of Cumulative Effects

An entire section of the 2007 "developmental working draft" Guidelines was devoted to the importance of considering cumulative effects to bats and their habitats during site selection. MNR noted that, "for example, an area/region with existing wind power developments that are found to be causing significant mortality or disturbance may not be favourable for further wind power development."

By contrast, the new Guidelines make no reference to cumulative effects; sites are evaluated on an individual project basis. This approach means that multiple large-scale wind power projects could potentially be located in close proximity without regard to their cumulative potential to kill vast numbers of bats. In such a circumstance, one could envision an entire population of bats being eliminated without any of the facilities exceeding the "significant mortality" threshold. MNR's elimination of pre-construction monitoring makes such a scenario even more possible.

Little Rationale Provided for Mortality Threshold

The Guidelines state that the 10 bats/turbine/year mortality threshold "has been determined based on bat mortality reported at wind power projects in Ontario and comparison with jurisdictions across North America." However, the Guidelines do not explain how this mortality rate (essentially the *status quo*) was determined to be acceptable in the context of sustaining Ontario's bat populations, or how it is expected to change over time. The mortality threshold will apply to each new wind turbine deployed at a Class 3 or 4 facility in Ontario; if, for example, 100 new turbines are deployed in a year, that means it would be acceptable for up to 1,000 more bats to be killed in that year alone. It is reasonable to wonder at what point (if not already) this mortality threshold may become unsustainable.

No Clear Next Steps if Mitigation is Inadequate

It is not clear what type of action MNR may require if significant bat mortality continues to occur after operational mitigation measures are implemented, or what is expected of proponents if even those "additional mitigation" measures are not sufficient to reduce bat mortality. At what point, if any, would MNR conclude that significant bat mortality is unavoidable at a particular wind power facility? Would MNR require turbines to be shut down altogether, either temporarily or permanently?

Public Participation & EBR Process

MNR invited public comments on this proposal for 52 days. In response, a range of stakeholders, including wind energy companies, field naturalist groups, biologists, individual residents and others submitted 68 comments, some of them form letters.

While some commenters expressed general approval of the government's efforts to promote renewable energy, comments on the proposed guideline were overwhelmingly negative by both industry commenters and conservationists. Recurring – and sometimes polarized – comments included:

- green energy should not trump wildlife protection and biodiversity;
- more research into the effects of wind turbines on bats is required;
- pre-construction monitoring should be required;
- the Guidelines do not adequately deal with movement or migration corridors, or provide for adequate assessment of migratory and foliage roosting species;
- the mortality threshold is too low/the mortality threshold is too high;
- three years of post-construction monitoring is excessive for low risk sites/three years of post-construction monitoring is appropriate/post-construction monitoring should be required for the life of the turbine;
- monitoring by wind power proponents lacks independence;
- monitoring and mitigation requirements are too onerous;
- the Guidelines should not limit the operational mitigation options available;
- the Guidelines lack sufficient detail;
- the Guidelines fail to use a precautionary approach or to require consideration of cumulative effects.

MNR reported that in addition to inviting comments via the Environmental Registry, it also held an information session and a bat monitoring workshop.

SEV

In its Statement of Environmental Values (SEV) consideration document, MNR detailed the ways in which ministry staff considered each of the ministry's SEV principles in the context of this policy proposal. MNR stated that "the Guideline will utilize the objectives of the SEV to manage Ontario's natural resources in an ecologically sustainable way. Every applicable principle has been applied to the creation of the Guideline as a current and future resource for wind power development on Crown and private land."

MNR also noted that it considered its "commitment to support Government of Ontario initiatives to reduce our dependency on coal and invest in green and renewable sources of energy" in the context of the proposal, and asserted that its "commitment to manage natural resources for future generations" is also represented within the Guidelines.

Other Information*Guidelines for Birds and Bird Habitats*

The REA Regulation amendments that created special requirements for bats and their habitats also created equivalent provisions for birds. MNR released "Bird and Bird Habitats: Guidelines for Wind Power Projects" in January 2012. For more information about those guidelines, please refer to Section 1.11 of this Supplement.

ECO Comment

Between wind turbines and white nose syndrome, every species of bat in Ontario is under increasing pressure. The ECO applauds the Ontario government and MNR for recognizing the need for wind power projects to pay special heed to bats and bat habitats. The ECO is pleased that these Guidelines are finalized; they had been stalled as “interim direction” on the Registry for too long.

That said, the ECO believes there is still work to be done to ensure the Guidelines are sufficiently protective of bats and bat habitats. Most significantly, the ECO urges MNR to move quickly to develop criteria for identifying and evaluating bat migratory stopover areas and related habitat, and to integrate those criteria into the Guidelines. Given the importance of project site selection on minimizing potential effects to bats, and the fact that migratory species are most vulnerable to wind turbines, having criteria to identify and avoid developing wind energy in migratory stopover areas is essential.

The ECO is disappointed that MNR excluded key protections found in the 2007 developmental working draft guidelines from the final Guidelines. Considering potential cumulative effects of proposed wind power facilities could help to minimize bat mortality; this analysis should be undertaken at the earliest stages of planning. Further, MNR’s total dismissal of pre-construction surveys as ineffective seems premature; until very recently, MNR held the view that “pre-construction site surveys are a critical component in properly evaluating a proposed wind power development.” In light of the heretofore limited information and study on bats, it would seem prudent to continue some baseline monitoring in case valuable information – particularly about bat migratory pathways – could be gleaned from this work.

While MNR may not have a formal role in approving REAs, the ECO hopes that MNR will play an ongoing and active role in reviewing bat monitoring data and reports, and ensuring that information about bats gathered during this process is not only submitted to the wind database but also provides input to MNR’s overarching role in managing and conserving the province’s wildlife.

As more information and data about bats and wind turbines is collected – and as wind power development continues to grow – the ECO urges MNR to carefully monitor and re-evaluate the bat mortality threshold to ensure it protects populations from decline. Indeed, with all of the increasing pressures on bats and their habitats, the outlook for some species could worsen rapidly. If any bat species get listed under Ontario’s *Endangered Species Act, 2007*, MNR may have to revisit its approach to protecting them from the impacts of wind turbines.

Review of Posted Decision:**1.10 Guide for Crown Land Use Planning****Decision Information**

Registry Number: 010-9932
Proposal Posted: December 21, 2010
Decision Posted: April 1, 2011

Comment Period: 45 days
Number of Comments: 11
Decision Implemented: April 1, 2011

Keywords: Crown land; land use planning; protected areas; wetlands; mining

Description

Overview

The Ministry of Natural Resources (MNR) manages Crown lands in Ontario, which cover approximately 87 per cent of the province. In April 2011, MNR finalized a policy that consolidated and updated provincial direction for Crown land use planning, called the Guide for Crown Land Use Planning (the "Guide"). The Guide applies to all Crown land use planning conducted under the *Public Lands Act*, with the exception of the area known as the Far North. It replaces direction provided in A Land Use Planning System for Ontario's Natural Resources (1997) and portions of Ontario's Living Legacy Land Use Strategy (1999).

The overarching legislation – the *Public Lands Act* – gives authority to this Guide. Unfortunately, the Act itself has not undergone a thorough review in decades; as such, it does not explicitly reflect modern concepts in resource and environmental management such as sustainability, biodiversity conservation, and maintaining ecological integrity. The ECO recommended in our 2006/2007 Annual Report that MNR reform the *Public Lands Act* to create a planning system that provides the ministry with the necessary tools to better protect ecological values on all Crown lands.

In this new policy, MNR has set up the Guide into two main parts: the first part deals with land use planning in a general fashion providing a recommended process for MNR staff to use; and the second part provides provincial policies and supporting information for Crown land use designations. MNR will use the direction provided in this document when proposing new or making amendments to land use plans and area-specific policies.

The Guide defines a Crown land use designation as "a land use classification with associated land use or management policies," established either through legislation, policy or planning processes. The Guide is the primary policy for forest reserves, enhanced management areas (EMAs) and general use areas. For these designations, it provides a general framework for MNR staff to develop area-specific land use policies through local planning. Each designation defines the commercial activities, land and resource management directions, and recreation activities and facilities that are allowed or prohibited in an area. For other designations – provincial parks, conservation reserves, provincial wildlife areas, and wilderness areas – the Guide summarizes other regulatory frameworks that are complementary to this process, such as the policy and planning system under *Provincial Parks and Conservations Reserves Act*.



Figure 1: Crown land use planning areas in Ontario: Far North planning area; Ontario's Living Legacy Land Use Strategy (OLL) planning area; and area where the Guide for Crown Land Use Planning area (Source: MNR, 2011).

Implications of the Decision

Consolidated and Consistent Direction

This Guide is a consolidation of a wide range of MNR policy. It should increase consistency of the Crown land use planning process, as well as plans and area-specific policies. MNR staff must apply the Guide's standards in all Crown land use planning carried out under the *Public Lands Act*. However, the Guide will be transitioned in and only applies to new land use planning projects after April 1, 2011, or will be triggered by future amendments to existing plans and area-specific policies. The Guide does not commit MNR to reviewing and updating existing plans and area-specific policies to ensure consistency with the new direction.

General Use Area

The majority of Crown lands fall into this designation as it is the 'default' designation where no other specific designations have been assigned. It is the most flexible designation, but can have specific land use policies. Many resource and recreation uses can be permitted in general use areas, but restrictions may be established when necessary. For example, policies can establish controls on access or protect areas of natural and scientific interest (ANSIs). When planning in this category, MNR must consider the implications of management actions on adjacent Crown land use designations, such as provincial parks.

Enhanced Management Areas

MNR defines an EMA as "a Crown land use designation that is used in Crown land use planning to provide more detailed land use direction in areas of special features or values, or where the land use policies for one of the EMA categories supports the land use intent for the area." There are five categories of EMAs: natural heritage, recreation, remote access, fish and wildlife, and Great Lakes Coastal Areas. For example, natural heritage EMAs are intended to "provide partial protection to areas with significant natural values, while allowing a range of resource activities." Commercial timber harvesting, aggregate extraction, generation of electricity and road development area permitted in these areas, but may be subject to conditions to protect natural heritage values such as the location, size and timing of operation. The construction of new roads or trails in these areas must consider the potential impacts of access on values and MNR may establish conditions and restrictions.

Recreation EMAs can be applied to "areas with high recreation use or significant recreation values for activities such as angling, hunting, motorized and non-motorized trail use and canoeing." Commercial timber harvesting, mining, aggregate extraction, the generation of electricity, and construction of service roads may be permitted. However, the Guide directs that these industrial activities should be planned in "a manner that supports the maintenance or enhancement of the area's remote recreation qualities," which is similar in intent to the direction for fish and wildlife EMAs. Additionally, it is worth noting that the Guide outlines that few, if any, new Great Lakes Coastal Areas EMAs will be established in the future.

Forest Reserves

Forest reserves were established under the Ontario's Living Legacy Land Use Strategy as areas within proposed or recommended protected areas but which had existing interest or tenure under the *Mining Act* or *Aggregate Resources Act*. In these areas, mining and aggregate extraction are allowed. However, the intent of this designation is that once a claim, lease or permit expires, the land would become a provincial park or conservation reserve. The Guide replaces land use policies in Ontario's Living Legacy Land Use Strategy. In 2005, MNR began to reduce the number and extent of forest reserves through Crown land use planning with a long-term objective to eliminate them entirely.

Mineral Exploration Trumps other Land Uses

A significant change to Crown land use planning direction relates to mineral resources. The Guide states that previous Crown land use planning documents included "statements related to mineral exploration and development that may have overstated the extent to which these activities can be controlled through land use policies or processes." As the *Mining Act* establishes a free-entry system where most Crown land is openly available for exploration and development, except in some areas like provincial parks and conservation reserves, the Guide indicates that Crown land use planning documents cannot include restrictive policies "beyond what can be implemented by MNR," except when the Ministry of Northern Development and Mines (MNDM) is in agreement with the policy.

MNR must consider the potential for mineral development, existing mining lands and access in Crown land use planning, specifically when contemplating an interim or permanent withdrawal of mineral rights. In areas identified as having high mineral potential, land use decisions that "would preclude future mineral exploration and development will only be approved after consultation with MNDM." When undertaking Crown land use planning processes that are proposing the establishment of new protected areas or

documenting the proposed transfer of lands, the Guide directs that MNR should recommend that MNDM enact mining withdrawal orders to prohibit the registration of new mining claims.

In our 2006/2007 Annual Report, the ECO reported on the disentanglement of overlapping mining claims and protected areas after MNR's release of Ontario's Living Legacy Land Use Strategy. Mining claims were staked on 66 proposed protected areas either before the proposal or after the proposal but before MNR requested that MNDM remove the areas from eligibility. The ECO stated that "lands should be withdrawn from staking when MNR identifies them as candidates for protection" to ensure that this conflict does not occur again. Moreover, the ECO also stated in that report that the Minister of Natural Resources should in fact have the statutory authority to withdraw lands in such cases so as not to have to rely on MNDM for this aspect of Crown land management.

Wetland and ANSI Protection

On private lands, the Provincial Policy Statement, 2005 provides protection for identified natural values like Areas of Natural and Scientific Interest (ANSIs) and provincially significant wetlands (PSWs) on private land from development and site alteration. However, on Crown land, an ANSI or PSW is not a land use designation and does not "by itself confer any protection." The Guide directs MNR to consider and have regard to identified values in the Crown land use planning process, but it does not require any specific land use policies for these areas. Thus, some identified values like PSWs could have more protection on private land than on Crown land, unless they are included in a restrictive Crown land use designation such as a provincial park or specific protection policies are in place.

Public Participation & EBR Process

MNR posted a policy proposal notice for the Guide on the Environmental Registry for a 45-day public comment period. The ministry received 11 comments from a range of stakeholders, including: Aboriginal communities; anglers and hunters; an energy association; environmental non-governmental organizations; and other individuals. While some of the commenters supported the Guide, stating that it "should act as a good reference for MNR staff and proponents alike," many commenters requested both major and minor revisions to the document. Some recommendations and criticisms included:

- Additional details should be included in the Guide on consultation related to Aboriginal and treaty rights, effective engagement practices for involving Aboriginal peoples and incorporation of Aboriginal traditional knowledge into Crown land use planning practices;
- No commercial electricity generation should be permitted in EMAs if it is demonstrated that the development will compromise the management intent of the area;
- Concern that the Guide prohibits or greatly reduces trapping in certain Crown land use designations;
- The Guide should address "cumulative impacts from the full spectrum of resource uses including forestry, mining, hydroelectric power, transportation and tourism;" and
- The ministry should "[p]rotect all identified wetlands on Crown land via province-wide land use policy" and "commit the necessary resources to complete seamless, consistent wetland mapping (ie. a wetland inventory) across the area to which the Guide applies, and particularly for wetlands on the Canadian Shield."

MNR addressed and responded to some comments in the decision notice. For example, in response to the comment related to cumulative impacts, MNR stated that it has "identified cumulative effects assessment as a potentially valuable tool in managing Ontario's natural resources." MNR also updated the Guide in response to some comments; for example, it updated the "guidance for MNR planners to engage and/or consult with Aboriginal communities, and recognizes that engagement strategies for Aboriginal communities may need to be separate from public involvement activities."

SEV

Within the Guide itself, MNR stated that it has “considered its SEV during the development of the Guide. The Guide is intended to reflect the direction set out in the SEV and to further the objectives of managing Ontario’s natural resources on a sustainable basis.” MNR also documented its consideration of the ministry’s SEV when making the decision to finalize the Guide. For example, MNR stated that providing guidance on the application of land use designations in Crown land use planning will help ensure that the proper level of protection and consultation is applied from the outset and that stable protection for resource values is provided.

Other Information

Provincial parks and conservation reserves are important designations on Crown land, and their direction is generally guided by the *Provincial Parks and Conservation Reserves Act, 2006 (PPCRA)* and its associated policies. This Act was created following a review of protected areas legislation that began in 2004. The *PPCRA* establishes that the management objective of protected areas is “to permanently protect representative ecosystems, biodiversity and provincially significant elements of Ontario’s natural and cultural heritage and to manage these areas to ensure that ecological integrity is maintained.” Mineral development and commercial timber harvesting are among the prohibited activities within protected areas (for additional information on the *PPCRA*, see the ECO’s review in Part 3 of our 2006/2007 Annual Report).

MNR regulates timber harvesting on Crown land under the *Crown Forest Sustainability Act, 1994* and its associated regulations, manuals and guides. The purpose of the Act is to “provide for the sustainability of Crown forests and, in accordance with that objective, to manage Crown forests to meet social, economic and environmental needs of present and future generations.” However, the ECO has previously commented that forest management planning has effectively become the *de facto* detailed planning mechanism for Crown lands. While the process considers some ecological values, MNR treats the management of all other components of Crown land, such as conserving biodiversity, as a lesser priority.

Under the *Far North Act, 2010*, First Nations and the Ontario government can jointly prepare community based land use plans for areas in Ontario’s Far North (for additional information, refer to Part 2.2 of the ECO’s 2010/2011 Annual Report). Most of Ontario’s Far North does not yet have community based land use plans as only four such plans have been completed as of May 2012. The yet-to-be-developed Far North Land Use Strategy will presumably provide similar planning direction as this Guide. Nonetheless, the planning standards in the Guide can be considered for guidance when conducting land use planning in the Far North.

ECO Comment

MNR has the tremendous duty to manage Ontario’s Crown land on behalf of the public, as well as the government at large. The ministry’s Guide for Crown Land Use Planning is a key component in planning and managing our vast Crown lands in a manner that weighs all interests. Unfortunately, any benefits that this planning direction could have are constrained by the outdated *Public Lands Act*. Unlike other planning legislation in Ontario, such as the *Planning Act* and the *PPCRA*, the *Public Lands Act* has not been open to public review or significantly revised in decades. The ECO believes that MNR should review the *Public Lands Act* with the aim to provide the necessary planning tools to carry out its mandated activities: biodiversity management, natural heritage and protected area management, resource management, renewable energy, and forest management.

The conflict between mining and environmental protection on Crown land is a long-standing issue, which the ECO has reported on many times. The direction provided in the Guide perpetuates the management approach that mineral exploration should trump all other land uses, such as conservation, recreation, or different kinds of commercial enterprises. The free-entry system established under the *Mining Act* is a dated concept, and at odds with modern values and land use planning principles. For example, it will be difficult for MNR to regulate any new protected areas without MNDM’s express consent – regardless of

the area's ecological significance or sensitivity. MNR should be empowered with the ability to comprehensively manage Crown lands, irrespective of mineral potential or access for exploration or development.

Review of Posted Decision:

1.11 Birds and Bird Habitats: Guidelines for Wind Power Projects

Decision Information

Registry Number: 011-0112
Proposal Posted: November 5, 2010
Decision Posted: January 17, 2012

Comment Period: 45 days
Number of Comments: 212
Decision Implemented: December 14, 2011

Keywords: birds; wind power; renewable energy approval; significant wildlife habitat; natural heritage; Important Bird Areas

Description

Overview

Wind power is an important component of the Ontario government's plan to increase our sources of clean, renewable energy. However, an unfortunate consequence of erecting wind turbines, like many other buildings and structures, is that birds may be injured or killed or their habitat diminished or destroyed.

In January 2012, the Ministry of Natural Resources (MNR) released "Birds and Bird Habitats: Guidelines for Wind Power Projects" (the "Bird Guidelines"). Applicants seeking approval of Class 3 and 4 (i.e., onshore facilities with a capacity of 50 kilowatts or more) wind power projects in Ontario must follow the Bird Guidelines to address potential negative effects on birds and bird habitats during planning, construction and operation of the projects.

Background

Bird/Wind Turbine Interactions:

Wind power projects, like development of any kind, have the potential to negatively affect wildlife and wildlife habitat. Birds are particularly vulnerable; they may be injured or killed in flight by colliding with turbine blades, towers and associated components such as guy wires and maintenance vehicles; or they may suffer loss of feeding, breeding or migratory stopover habitat and other indirect effects. Nocturnal species may also suffer physical exhaustion due to disorientation induced by turbine lighting.

According to MNR, an average of 2.5 birds per wind turbine are killed each year in Ontario – a number that, according to MNR, is "consistent with studies undertaken around the world." MNR states that wind power projects at this mortality level "are not a sustainability concern for most of Ontario's bird populations." To put MNR's number in perspective, consider this: wind turbines have been estimated to account for less than 0.01 per cent of bird deaths caused by anthropogenic sources. By contrast, over 80 per cent of anthropogenic bird mortality has been attributed to collisions with buildings and power lines, and predation by cats (see Figure 1). Furthermore, at least two recent studies have concluded that, of an array of renewable and non-renewable electricity generation types, wind power has the least negative impact on wildlife, including birds. When effects on wildlife such as air pollution, mercury bioaccumulation,

and habitat destruction and damage are taken into account, wind presents a lower risk to wildlife than other electricity sources.

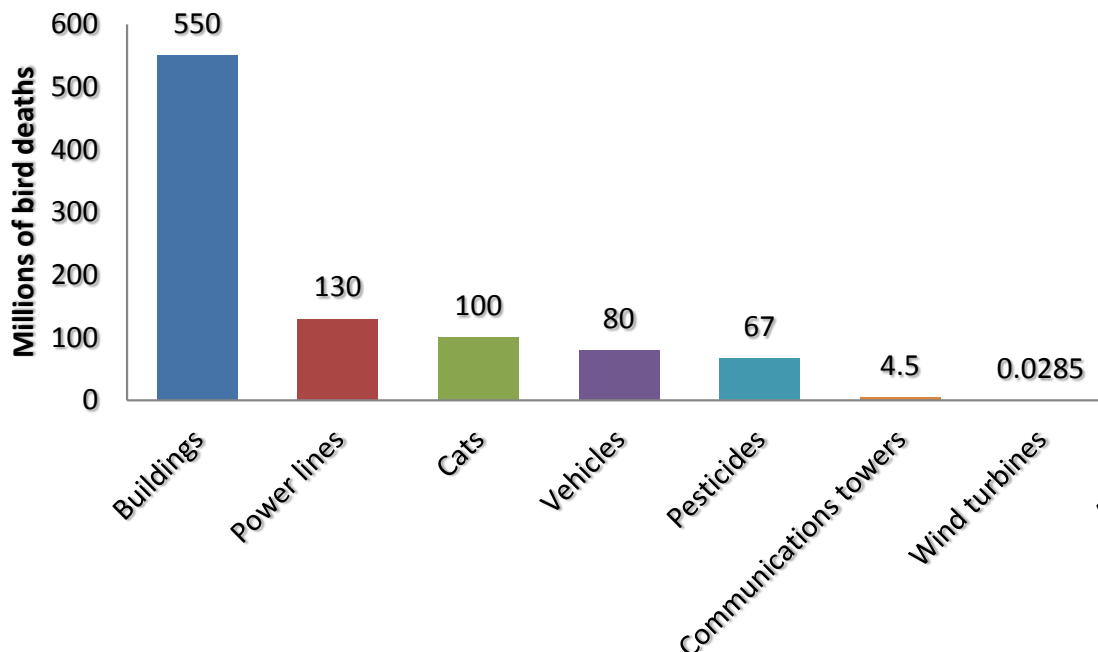


Figure 1. Estimated annual bird mortality in the U.S. by some anthropogenic sources (expressed in millions). (Source data: Erickson, W.P., G.D. Johnson, and D.P. Young. 2005. A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions. USDA Forest Service General Technical Report PSW-GTR-191.)

The Ontario government has nevertheless identified a need for wind power proponents to be particularly mindful of potential effects on birds when planning, constructing and operating wind power projects.

Offshore Wind Power Development Put on Hold

In February 2011, the Ontario government suspended the approval of offshore wind projects indefinitely “while further scientific research is conducted.” The Bird Guidelines only apply to onshore wind power facilities.

The Regulatory Framework:

The requirements for establishing a renewable energy project (including wind power) in Ontario are set out in O. Reg. 359/09, the Renewable Energy Approvals Regulation made under the *Environmental Protection Act* (“REA Regulation”). Among many other things, an applicant seeking a REA must conduct a “natural heritage assessment” for their project. A natural heritage assessment consists of the following:

- **Records review** – An applicant must conduct a desktop review of various records to identify any natural features such as wetlands, woodlands and wildlife habitat that are known to be present within 120 metres of the proposed project location. For example, the applicant could request from MNR any known information about birds and bird habitat components or associated habitat that may extend to or within 120 metres of the project location; the applicant would also be expected to review additional information sources (such as records from Bird Studies Canada, the Canadian Wildlife Service (CWS), Ducks Unlimited, and local observatories and conservation authorities) to identify potential bird habitat.

- **Site investigation** – An applicant must undertake a physical investigation of the air, land and water within 120 metres of the project location to identify any additional natural features (such as wildlife habitat for birds) not identified through the records review.
- **Evaluation of significance** – The “significance” of each natural feature identified during the records review and/or site investigation must be assessed. Criteria for identifying and confirming significant wildlife habitat (SWH) for birds is set out in MNR’s Significant Wildlife Habitat Technical Guide (see Box, below).
- **Environmental impact Study** – Developing renewable energy projects in significant natural features or within a feature’s regulated setback (usually 120 metres) is prohibited, unless (with some exceptions) the proponent conducts an environmental impact study that identifies potential negative effects and explains how they will be mitigated. A proponent may elect, before or after undertaking an evaluation of significance, to move the proposed project location outside of the prescribed setback of a natural feature, in which case an environmental impact study would not be required.
- **Environmental effects monitoring plan** – Proponents of all Class 3 and 4 wind power projects—regardless of project location—must complete an extra step in the natural heritage assessment process: they must prepare “environmental effects monitoring plans” for birds and bats. Among other things, an environmental effects monitoring plan must establish programs for post-construction monitoring to identify negative environmental effects on birds and bats and their respective habitats.

While the Ministry of the Environment (MOE) is the approval body for REAs, MNR is responsible for reviewing all natural heritage assessment reports and confirming whether they were conducted according to MNR criteria and procedures. MNR may also provide comments to MOE on environmental effects monitoring plans for birds and bats. Further, while there is no official role for MNR once a REA is issued, it is expected that MNR will assist MOE in reviewing and assessing information found in annual bird monitoring reports, and ensuring data is submitted to the Wind Energy Bird and Bat Monitoring Database.

Bird Significant Wildlife Habitat		
Based on MNR’s Significant Wildlife Habitat Technical Guide, the Bird Guidelines describe the following as Significant Wildlife Habitat for birds:		
Seasonal Concentration Areas:	Rare or Specialized Habitats for Wildlife:	Habitat of Species of Conservation Concern:
<ul style="list-style-type: none"> • Colonial Nesting Bird Breeding Habitat • Waterfowl Stopover and Staging Areas • Shorebird Migratory Stopover Areas • Songbird Migratory Stopover Areas • Raptor Wintering Areas • Bald Eagle Winter Habitat 	<ul style="list-style-type: none"> • Colonial Nesting Bird Breeding Habitat • Waterfowl Stopover and Staging Areas • Shorebird Migratory Stopover Areas • Songbird Migratory Stopover Areas • Raptor Wintering Areas • Bald Eagle Winter Habitat 	<ul style="list-style-type: none"> • Grassland and Shrubland Bird Habitats; • Area Sensitive Forest Habitats

Birds and Bird Habitats: Guidelines for Wind Power Projects:

The overarching guidance for the REA natural heritage assessment process is found in the Natural Heritage Assessment Guide for Renewable Energy Projects (the “NHA Guide”); for more information about the NHA Guide, refer to Section 1.12 of this Supplement. Specific requirements related to birds and bird habitats, including preparing environmental effects monitoring plans for birds, are found in the Bird Guidelines. These Bird Guidelines replace an earlier version dating back to 2007, before the *Green Energy and Green Economy Act, 2009* streamlined the REA approval process. There is an equivalent set of guidelines for bats and bat habitats; for more information about those guidelines, see Section 1.9 of this Supplement.

In brief, the Bird Guidelines define criteria and procedures for: identifying and evaluating bird habitat during the natural heritage assessment process; identifying potential negative effects on birds and mitigation measures to address those effects; and post-construction monitoring of avoidance-disturbance effects and bird mortality. The Bird Guidelines rely heavily on MNR's Significant Wildlife Habitat Technical Guide; applicants are instructed to refer to that guide at almost every stage of the process.

Some key aspects of the Bird Guidelines include:

- **Encouraging proponents to apply setbacks to all bird habitats.** The Guidelines specifically encourage wind power applicants to consider applying setbacks to bird habitat “as the first option” (i.e., rather than evaluating significance and possibly undertaking an environmental impact study). This would entail moving a proposed project location outside a 120 metre setback for any bird habitat.
- **Defining “significant” mortality.** The Bird Guidelines establish the circumstances under which bird mortality would be considered “significant” and therefore require mitigation action and/or additional monitoring, on both an annual and event basis.

Annual mortality thresholds, beyond which mortality would be considered significant, are defined as:

- 14 birds/ turbine/ year at individual turbines or turbine groups;
- 0.2 raptors/ turbine/ year (all raptors) across a wind power project;
- 0.1 raptors/ turbine/ year (provincially tracked raptors) across a wind power project; or
- 2 raptors/wind power project (<10 turbines).

A “significant bird mortality event” occurs when bird mortality during a single mortality monitoring survey exceeds:

- 10 or more birds at any one turbine; or
- 33 or more birds (including raptors) at multiple turbines.

Unlike the mortality threshold established for bats, the threshold for birds is not averaged across a site; rather, bird mortality is monitored and assessed on an individual turbine basis. This discrepancy is explained by the fact that bat mortality tends to be unpredictable but consistent across a site, while bird mortality is more likely to be concentrated at a particular turbine or group of turbines.

In the draft Bird Guidelines, MNR originally established the annual mortality threshold for birds at 18 birds/turbine/year, based on “the highest reported bird mortality at wind power projects in North America, outside California.” However, in the final document, in response to public comments, MNR lowered the threshold to 14 birds/turbine/year, which is “below the 95th percentile of bird mortality rates in Ontario.” Mitigation efforts will therefore be focused on those outlier turbines with the top 5 per cent mortality rates (i.e., over 14 bird deaths/year).

- **Establishing procedures and timing for post-construction monitoring.** All Class 3 and 4 wind power projects must conduct three years of post-construction bird monitoring, from May 1 to October 31 (November 30 for raptors) annually. Post-construction monitoring may be conducted in conjunction with monitoring for bats. Detailed instructions are included in an appendix to the Bird Guidelines. Briefly, proponents of all projects must undertake regular bird mortality surveys to estimate the number of birds that are killed per turbine per year. Further, proponents of projects located within 120 metres of bird Significant Wildlife Habitat must conduct “avoidance-disturbance effects monitoring.” Additional scoped mortality and cause and effects monitoring is required if significant mortality has occurred, and additional effectiveness monitoring is required if mitigation measures are applied. The Bird Guidelines state:

Post-construction bird mortality surveys may identify specific species, specific periods of high bird mortality, or specific turbines/turbine groups

linked to bird mortality. This knowledge can be used to identify and scope subsequent monitoring, evaluate the success of mitigation measures (i.e. siting), establish protocols for operational mitigation and inform adaptive management.

- **Dictating post-construction mitigation measures.** Mitigation measures may be required if post-construction monitoring identifies significant annual bird mortality, or disturbance effects associated with bird SWH:
 - At turbines located *within 120 metres* of bird SWH, the proponent must immediately initiate post-construction mitigation measures (including operational mitigation), as identified in the environmental impact study for the project.
 - At turbines located *outside 120 metres* of bird SWH, proponents must conduct two years of scoped mortality and cause and effects monitoring, following which operational mitigation measures and effectiveness monitoring may be required if significant mortality persists.

Mitigation measures may be implemented on an individual turbine basis (in contrast to mitigation to address significant bat mortality, which is site-wide). Operational mitigation can include periodic shut-down of certain turbines, and/or blade feathering (i.e., altering the slant of the turbine blades to slow them down). Applicants are referred to the Significant Wildlife Habitat Technical Guide and an Environment Canada guidance document for post construction mitigation considerations. The Bird Guidelines also state that “emerging and new technologies should be considered that may reduce bird fatalities.”

- **Requiring contingency plans.** Contingency plans must be included in an applicant’s environmental effects monitoring plan for birds. Contingency plans provide for mitigation and monitoring measures to be implemented immediately in the case of a significant mortality event.
- **Compiling data.** All monitoring data will be submitted to the Wind Energy Bird and Bat Monitoring Database, a partnership project involving the Canadian Wind Energy Association (CANWEA), the CWS, Bird Studies Canada and MNR. This database is intended to “facilitate an improved understanding of the effects of wind turbines on birds and bats, and to allow for greater consistency in assessment of wind power effects.” The database is also intended to make bird data from wind power projects more publicly accessible.

Implications of the Decision

The Ontario government has ensured that wind power projects will not be approved without giving particular consideration to the effects of proposed wind power projects on birds and their habitats. The Bird Guidelines should assist applicants in more thoughtfully locating and operating wind power facilities to minimize potential harm to birds. Moreover, the Bird Guidelines should allow for the collection of useful information about bird mortality and disturbance due to wind turbines, as well as the effectiveness of particular mitigation actions; this information is integral to MNR’s stated approach of adaptive management and continuous improvement.

The individual turbine approach will not only require proponents to take immediate action when significant mortality occurs at a particular turbine or group of turbines; it will also allow proponents and the ministries to examine conditions that may contribute to higher bird mortality. Further, because many turbines may record no bird deaths at all, or a relatively low number of deaths, this approach to monitoring will allow proponents to initiate targeted (instead of site-wide) mitigation and monitoring efforts exclusively at those problematic turbines.

The Bird Guidelines fall short, however, of preventing wind power development from proceeding in sensitive bird habitat. While MNR acknowledges that “appropriate selection of a project location is a key

factor in preventing potential negative effects on birds,” developing a wind power project within bird SWH – including important migratory stopover areas, nesting and breeding habitat – is not prohibited.

Also missing from these Bird Guidelines is any consideration of potential cumulative effects. By contrast, the 2007 guidelines that these Bird Guidelines replace, as well as Environment Canada’s guidance document, *Wind Turbines and Birds: A Guidance Document for Environmental Assessment*, devote entire sections to cumulative effects considerations. While the effects of any one wind power project may be relatively low, failing to provide a mechanism for considering the cumulative effects of multiple wind power projects in an area (as well as other sources of bird mortality) could result in considerable mortality without necessarily triggering mitigation efforts.

Public Participation & EBR Process

MNR posted a policy proposal notice for the Bird Guidelines on the Environmental Registry for a 45-day public comment period. The ministry received 212 comments from a range of stakeholders, including: energy companies, environmental consultants, farmers and other landowners, environmental non-governmental organizations; conservation authorities; field naturalist clubs and other community groups; and other individuals. While the comments ranged from fervent disapproval of the draft Bird Guidelines (and/or wind power in general) to unreserved praise for them, the majority of commenters were dissatisfied with the document. Several commenters specifically expressed their support for renewable energy, but believed that the draft Bird Guidelines did not go far enough in protecting birds and bird habitats.

Some common criticisms included:

- The mortality threshold (originally proposed at 18 birds/turbine/year) is too high – many commenters argued that no bird kill is acceptable, referring to the threshold as a “kill rate”;
- No wind development should be permitted in Important Bird Areas (IBAs) (see box, below);
- The 120-metre setback from bird SWH is insufficient;
- The language of the proposed Bird Guidelines is too loose and permissive – definitive rules are required;
- Self-reporting by wind power proponents is a conflict of interest, and will likely result in under-reporting of bird mortality;
- No requirement or guidance is provided for assessing and monitoring cumulative impacts;
- Monitoring requirements are more stringent than necessary; and
- Technical justification is not provided for many of the requirements and protocols, which are overly onerous.

Some commenters provided specific technical critique and/or advice. A number of commenters also pointed to the high rate of bird mortality experienced at a wind power facility on Wolfe Island (a globally significant IBA near Kingston, Ontario), as an example of the “devastating” consequences of wind power development when projects are inappropriately sited.

One commenter noted the problematic timing of public consultation on the Bird Guidelines. Specifically, given that the NHA Guide is an essential supporting document of the Bird Guidelines, the commenter noted that it would have been more appropriate for MNR to have posted the NHA Guide on the Registry for public consultation before posting the draft Bird Guidelines. Instead, MNR posted a proposal for the draft NHA Guide over a month after the draft Bird Guidelines were posted, allowing just 12 days of overlap before the comment period closed on the Bird Guidelines.

Important Bird Areas

Important Bird Areas, or IBAs, are areas of land or water that are identified, using internationally accepted science-based criteria, as supporting specific groups of birds (i.e., threatened species, large groups of birds and birds restricted by range or habitat). Canada’s IBA Program, administered by Bird

Studies Canada and Nature Canada, is intended “to identify, conserve, and monitor a network of sites that provide essential habitat for Canada’s bird populations.” IBAs are considered to be “an important tool for identifying conservation priorities, and fostering greater success in the conservation of bird populations.”

MNR did not, as requested by many commenters, revise the Bird Guidelines to prohibit wind power development in IBAs. However, MNR did revise the document to include an explanation of the IBA Program, explain that IBAs may contain multiple candidate bird SWH, and note that a wind power REA applicant’s records review should include information about proximity of the proposed project to IBAs.

SEV

MNR documented its consideration of the ministry’s Statement of Environmental Values (SEV) when making the decision to finalize the Bird Guidelines. In particular, MNR explained that the monitoring and mitigation aspects of the Bird Guidelines should help achieve sustainability, and are consistent with principles of adaptive management and continuous improvement and effectiveness espoused by the ministry’s SEV. MNR also noted that the Bird Guidelines are based on recent and best-available Ontario and North American science and knowledge of birds and wind power interactions, and that the ministry worked closely with Environment Canada and the CWS in developing the document.

Other Information

At the time the final Bird Guidelines were released in January 2012, MOE was in the midst of consulting the public on a proposal for approval of a controversial Class 4 wind power facility in Prince Edward County called the Ostrander Point Wind Energy Park (Environmental Registry #011-5239). The proposed project garnered significant opposition due to the project’s location in a globally significant IBA.

Also attracting opposition was an information notice posted by MNR in May 2011 proposing to issue an “overall benefit” permit under the *Endangered Species Act, 2007* (ESA) related to the Ostrander Point Wind Energy Park (Registry #011-3181). The permit would allow the proponent “to kill, harm and harass Blanding’s Turtle and Whip-poor-will [both threatened species under the ESA] as well as damage and destroy the habitat of Whip-poor-will for the purpose of the development and operation of Ostrander Point Wind Energy Park.” Under the proposed permit, the proponent would be obliged to undertake a number of activities to achieve an overall benefit to those species.

At the time of writing, MOE has not posted a decision notice for the Ostrander Point REA proposal, nor has MNR updated its information notice to indicate whether the ministry issued the proposed ESA overall benefit permit. The ECO is monitoring these proposals and may comment on the respective ministries’ decisions in the future.

ECO Comment

The ECO is pleased that the Ontario government is taking special care to limit harm to birds and their habitats as wind power development increases in the province. While the benefits of wind power are substantial, and its threat to the sustainability of Ontario’s bird populations is low, every bird death is unfortunate. The Bird Guidelines should help wind power proponents and MNR to minimize negative effects on birds and their habitats.

Wind power has been demonized by some groups in Ontario, with vocal opponents citing a wide range of reasons, including effects on birds and bats, to challenge proposed wind farms in their communities. General opposition to wind power based on its impacts on birds is misguided, given the relatively low bird mortality rate at wind turbines compared to other threats, such as collisions with tall buildings, and given the reduced impacts on wildlife compared to other forms of energy. In fact, several prominent bird and conservation organizations have gone on the record expressing support for wind power as a clean energy source, provided project locations are carefully selected to avoid important bird habitat.

On that note, the ECO agrees that wind power should give IBAs a wide berth. It is unfortunate that MNR did not take a stronger stance by preventing wind power projects from proceeding in IBAs and other important bird habitat where higher than average bird mortality seems likely. Given MNR's own acknowledgement that location is a key factor in preventing potential adverse effects on birds, it would make sense to avoid constructing wind power projects in the most sensitive locations.

Finally, MNR's timing for consulting the public on the Bird Guidelines and the NHA Guide was not ideal. When consulting the public on a proposed act, policy or regulation, a ministry should consider other related proposals (current or forthcoming) that could assist the public in understanding the bigger policy picture or influence their views, and adjust or extend the consultation period for the proposal accordingly. In this case, MNR could have extended the comment period to allow the public a full 30 days to comment on the draft Bird Guidelines after access to the proposed NHA Guide became available.

Review of Posted Decision:

1.12 Natural Heritage Assessment Guide for Renewable Energy Approvals

Decision Information

Registry Number: 011-1845
Proposal Posted: December 8, 2010
Decision Posted: August 5, 2011

Comment Period: 47 days
Number of Comments: 53
Decision Implemented: July 29, 2011

Keywords: renewable energy approval; natural heritage; natural heritage assessment; environmental impact study; environmental effects monitoring plan; wind power

Description

Overview

Anyone seeking a renewable energy approval for certain wind, solar or bioenergy projects in Ontario must first identify and evaluate any natural heritage feature – such as woodlands, wetlands and wildlife habitat – in and around the project location. This process is called a “natural heritage assessment.” The assessment may include an “environmental impact study” to explain how any potential negative effects on those natural features would be alleviated if the project were to proceed.

Natural heritage assessments must be undertaken in accordance with criteria and procedures established or accepted by the Ministry of Natural Resources (MNR). In July 2011, MNR finalized its Natural Heritage Assessment Guide for Renewable Energy Projects (the “NHA Guide” or “Guide”). The NHA Guide sets out the evaluation criteria and procedural guidance necessary to complete all aspects of a natural heritage assessment in support of an application for approval of a renewable energy project on private or provincial Crown land.

Background

Approvals Process for Renewable Energy Projects in Ontario:

In May 2009, the Ontario government passed the *Green Energy and Green Economy Act, 2009*, (GEGEA). The intent of the GEGEA was, in part, to support the government's commitment to “fostering the growth of renewable energy projects, which use cleaner sources of energy, and to removing barriers to and promoting opportunities for renewable energy projects and to promoting a green economy.”

Among other things, the *GEGEA* amended the *Environmental Protection Act* (*EPA*) to establish a new, streamlined approval for renewable energy projects – the “renewable energy approval” or “REA.” The REA replaces the multiple Ministry of the Environment (MOE) approvals that previously applied to renewable energy projects. Most renewable energy projects were also exempt from requirements of the *Environmental Assessment Act* and *Planning Act*. The specific requirements for obtaining a REA are set out in O. Reg. 359/09, the Renewable Energy Approvals Regulation made under the *EPA* (“REA Regulation”). The ECO reviewed the *GEGEA* and the REA Regulation in our 2009/2010 Annual Report.

Natural Heritage Assessments under the REA Regulation:

A natural heritage assessment for a REA comprises the following:

- **Records review** – A desktop search and analysis of various records to identify any natural features, provincial parks or conservation reserves in or within 120 metres (m) of the project location.
- **Site investigation** – A physical investigation of air, land and water within 120 m of the project location to identify any additional natural features that were not identified during the records review.
- **Evaluation of significance** – If any natural features are identified during the records review and/or site investigation, an evaluation of the “significance” of each natural feature is also required. A woodland, valleyland or wildlife habitat is “significant” if MNR has designated it as significant or if it is identified as significant using evaluation criteria or procedures established or accepted by MNR. The term “provincially significant” is used in the same way in reference to wetlands and Areas of Natural and Scientific Interest (ANSIs).
- **Environmental impact study** – Construction, installation or expansion of a renewable energy project is “prohibited” in or within 120 m¹ of significant or provincially significant natural features or areas. In most cases, however, a REA applicant may overcome this prohibition by undertaking an environmental impact study (see Box). An environmental impact study must identify any potential negative environmental effects of a renewable energy project on a significant natural feature, and explain how those potential negative effects will be addressed through mitigation and monitoring.

Development “Prohibitions”

Absolute Prohibition

No approval will be granted for a renewable energy project in the following locations:

- in a provincially significant southern wetland;
- in a provincially significant coastal wetland; or
- in a provincial park or conservation reserve (except in limited circumstances authorized by the *Provincial Parks and Conservation Reserves Act, 2006*).

Development Permitted only if Environmental Impact Study is Undertaken

No approval will be granted for a project in the following locations, unless an environmental impact study is undertaken:

- within 120 m of a provincially significant southern wetland;
- within 120 m of a provincially significant coastal wetland;
- in a provincially significant northern wetland or within a 120 m setback;
- within 120 m of a provincial park or conservation reserve;
- in a provincially significant ANSI (earth science), or within a 50 m setback;

¹ Except for provincially significant ANSIs (earth science), for which the setback is 50 m.

- in a provincially significant ANSI (life science), or within a 120 m setback;
- in a significant valleyland or within a 120 m setback;
- in a significant woodland or within a 120 m setback;
- in significant wildlife habitat or within a 120 m setback;
- in specified natural features (i.e., sand barrens, savannahs, tallgrass prairies, alvars, life science ANSIs and southern wetlands that are not provincially significant) within the Greenbelt and Oak Ridges Moraine or within their 120 m setbacks.

While the Ministry of the Environment (MOE) is the formal approval authority for REAs, the natural heritage assessment component of the REA requires input from MNR. Before making a REA application to MOE, the applicant must submit all of the natural heritage assessment reports and plans to MNR for review. This will generally include: a Records Review Report; a Site Investigation Report; an Evaluation of Significance Report; and, if the applicant's proposal involves development in a significant natural feature or its setback, an Environmental Impact Study Report. Wind project proponents must also provide MNR with Environmental Effects Monitoring Plans for birds and bats and their habitats (see Other Information, below).

There is no requirement for MNR to approve the substance of natural heritage assessment documents. However, a REA applicant must obtain written confirmation from MNR that the natural heritage assessment was conducted using the appropriate evaluation criteria or procedures. MNR may also provide comments on Environmental Impacts Study Reports and on Environmental Effects Monitoring Plans for bats and birds.

When the applicant submits the complete REA application to MOE, they must include all of the reports and plans prepared for the natural heritage assessment together with MNR's written confirmation and comments.

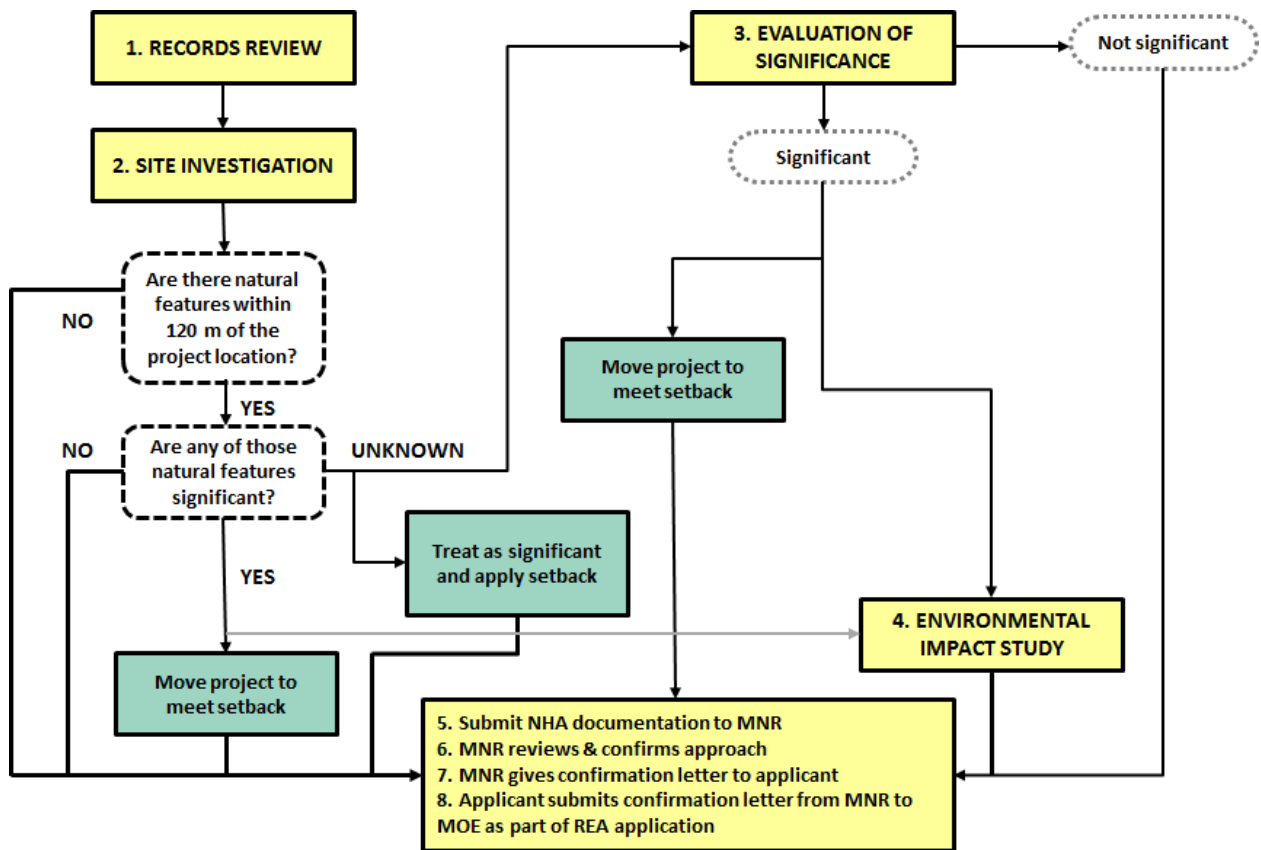


Figure 1. Natural heritage assessment process for renewable energy approvals
(Source: Natural Heritage Assessment Guide for Renewable Energy Projects, MNR, July 2011.)

The Natural Heritage Assessment Guide for Renewable Energy Projects:

While the REA Regulation establishes the basic requirements of the natural heritage assessment component of a REA, the NHA Guide provides specific direction on how each step of the natural heritage assessment must be conducted. The Guide also dictates the information that must be included in each report to be submitted as part of a natural heritage assessment.

The NHA Guide includes a plain language overview of the REA natural heritage assessment process, together with a flowchart depicting the process (see Figure 1 above). It includes explanations of important terminology used in a natural heritage assessment, such as “project location,” “significant” and “provincially significant.” Numerous tables and figures in the Guide explain specific natural heritage assessment concepts and requirements for REAs (e.g., how to identify a project location boundary; what records should be searched and analyzed in a records review). Several appendices to the Guide provide more specific guidance, procedures and criteria to be used for particular steps in the natural heritage assessment (e.g., examples of potential negative environmental effects and possible mitigation measures that may be employed in the environmental impact study).

The NHA Guide also provides recommendations and suggestions to assist proponents. For example, the Guide recommends that proponents expand the records review area beyond that required by the REA Regulation, to accommodate potential future changes to project design or layout. The Guide also encourages applicants to coordinate the natural heritage assessment for their project with other provincial, federal or agency requirements, and directs applicants to the Renewable Energy Facilitation Office to obtain information about any other legislation that may apply. In particular, the Guide encourages applicants to coordinate the work done for natural heritage assessments with other MNR

approval requirements, such as permits under the *Endangered Species Act, 2007*, and to contact the local conservation authority to identify any permissions required under the *Conservation Authorities Act* and regulations.

Implications of the Decision

Certainty and Consistency

Having a central, defined set of criteria and procedures for undertaking natural heritage assessments for REAs should lead to a more consistent approach to the process. It should lead to more certainty for REA applicants and ministry staff tasked with reviewing natural heritage assessment reports, as well as observers of the process. The advice, suggestions and recommendations included in the Guide, from establishing early contact with the MNR district office to assessing an area large enough to accommodate changes to project design or layout, should facilitate the process and potentially save time and resources for the applicant and MNR.

Assumption that Development in “Prohibited” Areas will Proceed

The NHA Guide places little priority on protecting a natural feature by avoiding development in the feature or its setback. The Guide seems to presume that a REA applicant who has identified significant natural features within 120 m of the proposed project location will respond by undertaking an environmental impact study – not by relocating the project. While the Guide does present the option of protecting natural features and areas by observing established setbacks earlier in the document, the Guide does not specifically encourage applicants to take this approach until page 43 of the 53-page Guide, and this recommendation appears to be based on the efficiencies of avoiding an environmental impact study rather than protecting natural features. In one instance, the Guide refers to relocating a project outside of a feature's setback as an “alternative” to evaluating the significance of the feature and conducting an environmental impact study.

Less Stringent Evaluation Criteria for REAs

According to MNR, the Guide employs an approach based on MNR's Natural Heritage Reference Manual (Second Edition), which supports the natural heritage policies of the Provincial Policy Statement, 2005 (PPS), issued under the *Planning Act*. The ECO reviewed the Natural Heritage Reference Manual in Part 4.1 in our 2010/2011 Annual Report.

While the NHA Guide is consistent with the Natural Heritage Reference Manual in many aspects, the Guide slackens some requirements for renewable energy projects. In particular, some of the detailed criteria for evaluating woodlands and valleylands in the Natural Heritage Reference Manual have been trimmed down in the NHA Guide. For example, for valleylands the NHA Guide leaves out the requirements to consider landform prominence, distinctive geomorphic landforms, community and species diversity, unique communities and species, and restoration potential and value when evaluating significance.

Similarly, while the Natural Heritage Reference Manual states that a planning authority must consider cumulative impacts when identifying negative impacts of development or site alteration activities on a significant natural heritage feature or area, the NHA Guide includes no such provision – in fact, there is no reference to cumulative impacts anywhere in the Guide.

Finally, both the PPS and Natural Heritage Reference Manual prohibit development in certain significant natural heritage features or their adjacent lands unless it is demonstrated that there will be “no negative impacts” on natural features or their ecological functions. By contrast, under the REA regulation a REA's environmental impact study must simply describe potential negative impacts to significant natural features and identify mitigation measures to address those impacts; demonstration of “no negative impacts” is not specifically required. However, MNR has broad discretion to establish the procedures for undertaking environmental impact studies for REAs, including identifying mitigation measures. The Natural Heritage

Reference Manual does note that “no negative impacts” may be demonstrated through mitigation; MNR could have strengthened the NHA Guide procedures to ensure that the mitigation measures that may be identified to address environmental effects of renewable energy projects in significant natural features or areas will result in no negative impacts.

Significant Features May Not Get Designation Required for Future Protection

When a natural heritage feature is identified through the records review or site assessment, the REA regulation requires the proponent to evaluate the significance of the feature to ascertain whether development prohibitions apply. However, the NHA Guide allows a REA applicant to choose to skip the formal evaluation process for wildlife habitat and wetlands, and instead “treat” the features as significant or provincially significant, provided the applicant ensures “that the attributes of the feature are assessed.” The applicant may then proceed with an environmental impact study without revising the proposed project location. The NHA Guide states that this approach “can reduce the complexity, time, and costs associated with full evaluations of significance, while continuing to consider the natural feature attributes necessary to prepare the Evaluation of Significance Report and conduct an [environmental impact study].”

This approach will not result in any less protection for the feature in the context of the renewable energy project – in fact, it could result in greater protection if the feature would, under a full assessment, have been found to be not significant. However, choosing to “treat” a feature as significant rather than fully evaluate it will not officially define the status of the feature. Therefore, for example, a wetland that would have received an official “provincially significant” designation if fully evaluated will not receive that designation if it is merely “treated” as provincially significant under the REA process. In such a case, the wetland will not be entitled to any of the protections from future development or site alteration afforded to provincially significant wetlands under the PPS.

Consideration of Natural Heritage Systems

The ECO has expressed concern in the past about land use planning that focuses on protecting individual features, rather than considering the landscape or natural heritage system level. The NHA Guide only formally refers to natural heritage systems in the context of the Greenbelt Plan’s Protected Countryside Area; however, the Guide does require applicants to consider relationships between natural heritage features and to identify linkages and connectivity as part of the natural heritage assessment and environmental impact study process.

Public Participation & EBR Process

MNR posted this proposal on the Environmental Registry for a 47-day consultation period, and received 53 public comments on the proposal. MNR has also reported that it held a stakeholder information session for industry and environmental non-governmental organizations (ENGOS).

Comments came from a wide range of stakeholders, including municipalities, industry associations, environmental consultants, ENGOS, renewable energy proponents and individuals. While some commenters were supportive of the NHA Guide in general, even most positive comments were accompanied by concerns about aspects of the Guide. Many commenters provided specific recommendations for improving the process and the provisions of the Guide.

One commenter charged that “MNR has lost sight of its primary responsibility, which is to manage and protect our Natural Heritage, not facilitate its industrialization and the destruction of habitat.” Another lamented that the streamlined approval process may “significantly compromise the protection of Ontario’s natural heritage, particularly as it relates to fish and wildlife values.” By contrast, an industry association expressed concern with the length of time that the REA process takes, despite the streamlining intent of the *GEGEA*. The commenter stated that certain elements of the NHA Guide “could potentially contribute most to unnecessary delays” to project development.

Many commenters felt that the 120-m setback distance is not great enough, and that encroachment into natural features and areas and their setbacks should be prohibited without exception. One conservation organization charged that the Guide allows mitigation to be used as “a substitute for natural feature protection.”

Commenters also asserted that some aspects of the NHA Guide are not consistent with guidance contained in MNR’s Natural Heritage Reference Manual or with existing policy in the PPS. Conservation Ontario and some individual municipalities were also concerned that the role of local planning authorities in the natural heritage assessment process needs to be clarified.

A common concern was that the natural heritage assessment process is too proponent-driven. Commenters asserted that the Guide should require natural heritage assessment work to be undertaken by fully independent, qualified professionals. Some commenters also felt that MNR should be playing a greater role in reviewing natural heritage assessments and in the decision-making process for REAs. It was noted that MNR will need adequate resources and staff expertise at its district offices to review natural heritage assessment documents.

Finally, several commenters expressed opposition (in some cases vehemently) to wind power projects generally and/or to specific wind power project proposals and locations.

In its decision notice, MNR stated that it incorporated some of the input received into the finalized NHA Guide by: including additional relevant information sources to assist applicants with completing the required studies and reports; and by clarifying methodological sections. MNR also noted that it updated the requirements of the NHA Guide based on the amendments to the REA Regulation that came into force during consultation on the draft NHA Guide.

Renewable Energy Approvals and the Environmental Registry

Need to Facilitate Access to REA Application Materials

Proposal notices for REAs have not, to date, included links to any of the REA application materials, including natural heritage assessment reports. And while the REA Regulation requires an applicant to post all application materials on the applicant’s own website (if they have one), proposal notices on the Registry do not inform the public of this requirement. Thus, a member of the public who wishes to view the supporting application materials before commenting on a proposal for a REA must either contact the ministry staff named in the proposal notice for additional information, or know that they may find the application materials on the applicant’s website.

Forcing interested Ontarians to track down information they may need to make an informed comment on specific aspects of a proposal for a REA is unnecessary and contrary to the intent of the *Environmental Bill of Rights, 1993 (EBR)*. It would make infinitely more sense for MOE to include a link to the REA application and all supporting documents (including the natural heritage assessment reports) in the proposal notice on the Registry or, at a minimum, provide a link to the materials on the applicant’s website.

Confusing Instructions for Appealing REA Decisions

The process for a third party to challenge a REA decision is different than the usual leave to appeal process for instrument decisions under the *EBR*. However, when MOE posts decision notices for REAs on the Registry, it uses the same template used for all other instrument decision notices even though the instructions for seeking leave to appeal do not apply to REA decisions. MOE addresses this problem by including large, bold lettering at the top of REA decision notices instructing the reader to ignore the section entitled “Leave to Appeal Provisions” and to instead follow the instructions contained in a note added to the “Decision on Instrument” section.

The Registry is, in many ways, the face of the *EBR*. It is the primary venue for the public to receive notice of and participate in government environmental decision making. When a REA decision notice is posted on the Registry, it triggers the public's right to challenge the government's decision to issue the approval. It is therefore critical that REA decision notices clearly explain to Ontario residents their appeal right and the process for exercising that right. While MOE can be credited for attempting to communicate the proper information in REA decisions notices, the result is a messy and complicated notice that is likely to confuse all but the most experienced Registry users.

In some REA decision notices posted in 2010, MOE stated that it "is currently working to amend the template for decision notices to reflect the third party hearing process for renewable energy projects." However, these amendments still have not been made and MOE no longer includes this statement in REA decision notices. In April 2012, MOE advised the ECO that it is still working on updates to the template.

For more information about appeals and leave to appeal applications under the *EBR*, see Appendix III of Part 1 of the ECO's 2011/2012 Annual Report.

SEV

MNR provided a detailed Statement of Environmental Values (SEV) consideration document for this decision to the ECO. The ministry confirmed that each of the principles of resource stewardship outlined in its SEV were considered, and briefly described the ways in which the decision accords with each of those principles.

In particular, MNR noted that "the Guide focuses on balancing the sustainable use of our natural resources for a cleaner source of energy, while protecting and enhancing our natural ecosystems for future generations." MNR also stated that "the MNR commitment to support Government of Ontario initiatives to reduce our dependency on coal and invest in green and renewable sources of energy was considered in the context of this proposal" and that MNR's "commitment to manage natural resources for future generations ... has been represented within this Guideline."

Other Information

Guidelines for Bats, Birds and their Habitats

As a result of amendments to the REA Regulation that came into force in January 2011, applicants seeking REAs for wind power projects must prepare environmental effects monitoring plans for bats and birds and their habitats. Those plans must be submitted to MNR with the applicants' other natural heritage assessment documentation.

In August 2011, MNR released Bats and Bat Habitats: Guidelines for Wind Power Projects (July 2011), and in January 2012, MNR released Bird and Bird Habitats: Guidelines for Wind Power Projects. These documents establish criteria and procedures for preparing natural heritage assessments and environmental effects monitoring plans in respect of bats and birds and their respective habitats. For more information about these guidelines, see Chapter 3.2 of Part 2 of this year's Annual Report.

Other MNR Approval and Permitting Requirements

In 2009 MNR published the "Approval and Permitting Requirements Document for Renewable Energy Projects" to explain the approvals under legislation administered by MNR that may be required for renewable energy projects. (e.g., *Public Lands Act*, *Endangered Species Act, 2007*, *Fish and Wildlife Conservation Act, 1997*, *Provincial Parks and Conservation Reserves Act, 2006*). The ECO commented on that document in Part 2.3 of our 2009/2010 Annual Report.

Technical Guide for Water Assessment and Water Body Reports

In addition to a natural heritage assessment, REA applicants must undertake a separate “water assessment” to identify and address potential negative impacts to water bodies from the proposed renewable energy project. In January 2011, MOE posted a proposal notice for a Technical Bulletin entitled Guidance for Preparing the Water Assessment and Water Body Reports as part of an application under O.Reg.359/09 (Environmental Registry #011-1962). The proposal notice makes note of “the potential links between the water and natural heritage assessment study requirements of the REA regulation.”

At the time of writing, MOE has not yet posted a decision notice for this proposal.

ECO Comment

The NHA Guide serves an important role in the REA process: it establishes the standards for an environmental impact study that will ultimately allow a renewable energy project to be developed within “prohibited” natural heritage features and their setbacks. MNR does not have any formal role in approving REAs or their underlying natural heritage assessments; it is therefore critical that the criteria and procedures established by MNR to safeguard natural features against negative impacts from renewable energy projects are as protective as possible. For the most part, the NHA Guide should achieve this.

The Ontario government has clearly indicated that it is placing a priority on increasing renewable sources of energy in the province and, in furtherance of that laudable goal, it has made a policy decision to create special exceptions for renewable energy projects. By exempting renewable energy projects from *Environmental Assessment Act* and *Planning Act* requirements and streamlining the approvals process, the government has made it easier for those projects to move forward. Even natural heritage assessments seem to be made a bit easier for REA projects.

The ECO recognizes and agrees with the need to move away from fossil fuels, and continues to applaud the government’s efforts to balance the goals of promoting renewable energy while protecting the natural environment. Nevertheless, the ECO questions some of the relaxed requirements of the NHA Guide. The specific omission of any reference to cumulative effects consideration during the environmental impact study is particularly troubling. While MOE will be required to consider cumulative effects under its SEV when evaluating applications for REAs, some basic information on cumulative effects should be provided by proponents as a prerequisite for informed consideration by MOE.

The ECO questions the ministry’s decision to allow REA applicants to “treat” wetlands as provincially significant without fully evaluating them. The ECO has previously commented on the need to protect Ontario’s wetlands through evaluation and mapping, and has recommended that MNR “significantly speed up the process of wetland identification and evaluation and ensure that Provincially Significant Wetlands are incorporated into municipal official plans.” As contemplated in the Natural Heritage Reference Manual, no type of development should be approved without first requiring a full evaluation of any potentially significant wetlands in or near the project location. Expediency in the REA process should not supersede the enduring protection of Ontario’s wetlands.

MNR’s role is to promote healthy, sustainable ecosystems and to conserve biodiversity, in part through the promotion of natural heritage protection. While reducing greenhouse gases by supporting renewable energy is fundamentally consistent with this purpose, MNR’s role in the REA process should be to ensure that natural heritage features are protected. In that respect, the ECO believes the NHA Guide should have done a better job encouraging REA applicants to prioritize avoidance of significant natural features over mitigating potential harm to them.

Review of Posted Decision:**1.13 Fire Management Planning Guideline for Provincial Parks and Conservation Reserves****Decision Information**

Registry Number: 011-1892
Proposal Posted: January 20, 2011
Decision Posted: November 30, 2011

Comment Period: 46 days
Number of Comments: 3
Decision Implemented: July 2, 2011

Keywords: fire management; prescribed burns; prescribed fires; protected areas; provincial parks; conservation reserves

Description

In July 2011, the Ministry of Natural Resources (MNR) approved its Fire Management Planning Guideline for Provincial Parks and Conservation Reserves (the "Guideline"). The purpose of the Guideline is to assist MNR staff in fire management planning for protected areas (provincial parks and conservation reserves). The Guideline aims to achieve the ecological benefits of fire while ensuring protection of life, property and values from the adverse effects of fire. The Guideline, which supports the implementation of MNR's Fire Management Policy for Provincial Parks and Conservation Reserves (2004), is to be used during the preparation of fire response and fire management plans for provincial parks and conservation reserves, as well as during the development of protected area management direction (i.e., management plans or statements).

Background

Fire is an important ecological process fundamental to maintaining and restoring ecological integrity throughout Ontario. For example, fire disturbance triggers seed release and vegetative reproduction, creates seedbeds, reduces competition and rejuvenates soils by releasing nutrients. Moreover, natural fire patterns can maintain a significant proportion of forest cover in young, vigorous stands that are less susceptible to blowdown, disease and insects.

Since the 1920s, however, the provincial government has implemented increasingly effective fire suppression. The lack of fire disturbance in the last century has caused insect infestations, poor regeneration, the degradation of wildlife habitat and shifts in species composition, resulting in ecosystem conditions that no longer characterize the forest, savannah, or grassland conditions of Ontario before modern intervention. Furthermore, the significant accumulation of biomass (fuel-load) caused by the long-term suppression of forest fires could increase the risk of intense, devastating fires that can threaten lives, property, neighbouring lands, and natural and cultural features.

Many ecosystems within Ontario's provincial parks and conservation reserves require fire disturbance for renewal and ecological health. As MNR has acknowledged, unless they are exposed to fire in the coming decades, many protected areas will cease to represent the natural heritage they were designed to protect.

Fire Management in Ontario's Provincial Parks

Recognizing this concern, over the past decade MNR has developed several policies and strategies related to fire management, including the Forest Fire Management Strategy for Ontario (the "Strategy"; see pages 75-79 of the ECO's 2004/2005 Annual Report). This 2004 Strategy divides the province into

six Fire Management Zones based on common management objectives, land use, fire load and forest ecology. One of these zones – the Parks Zone – is comprised of 10 of Ontario's largest provincial parks, as well as Pukaskwa National Park. MNR explains that it created the zone because "fire is under-represented in the ecosystems of these parks and the future ecological integrity of the landscapes under park protection requires a progressive and responsible fire management effort."

Fires within the Parks Zone are to be addressed according to park fire management plans, which are to be developed for each park in the zone, subject to available park resources. (Multiple protected areas that are adjacent, or nearby, could be considered for one comprehensive fire management or fire response plan.) In the absence of an approved park fire management plan, the Strategy indicates how fires in the Parks Zone should be managed for each park. Provincial parks not included in the Parks Zone are to be managed for fire as directed in their respective park management plans, or, in the absence of a park management plan, the fire strategy for the surrounding Fire Management Zone.

In 2004, MNR also released its Fire Management Policy for Provincial Parks and Conservation Reserves (the "policy"), the goal of which is "to advance the management of fire in provincial parks and conservation reserves to restore and maintain the ecological integrity of Ontario's natural heritage represented within these areas, while preventing personal injury, value loss and social disruption associated with forest fires." The Environmental Registry proposal notice for the policy (#PB03E7004) indicated that it would be implemented by the then-unwritten Fire Management Planning Guidelines for Provincial Parks and Conservation Reserves, which would direct the process of fire management planning, including: the development of fire management objectives for all protected areas; the incorporation of fire management direction in relevant planning documents as appropriate; and the preparation of fire management plans if appropriate. Before developing such guidelines, however, MNR drafted and approved a fire management plan for Quetico Provincial Park (see Section 4.15 of the Supplement to the ECO's 2009/2010 Annual Report).

The Fire Management Planning Guideline for Provincial Parks and Conservation Reserves

In July 2011, nearly seven years after approving the Fire Management Policy for Provincial Parks and Conservation Reserves, MNR approved the guideline to implement it. To assist MNR staff with assessing the type of fire management appropriate for a protected area and to outline the planning requirements to implement it, the Guideline contains:

- information on the underlying provincial legislative and policy framework;
- a description of the options available for fire response (i.e., full, modified and monitored) and fire use (i.e., prescribed fire and prescribed burning) (for definitions, see Figure 1);
- information on the co-ordination and process of fire management planning (see Figure 1);
- criteria for determining the appropriate fire management planning level (e.g., Level 1, 2 or 3; see Figure 1);
- guidance on incorporating fire management direction into protected area management plans and statements; and
- detailed direction and templates for the preparation of fire response and fire management plans.

The Guideline also: discusses Aboriginal and stakeholder involvement in the planning process; offers guidance on designing an appropriate and cost-effective program to measure the implementation and effectiveness of fire management activities; and provides direction for the review and amendment of fire response and fire management plans. Templates and a Fire Management Planning Toolkit, containing links to a variety of information to assist in fire management planning (e.g., fire research reports and examples of fire response and fire management plans), are referenced in the Guideline for further guidance.

Implications of the Decision

The Guideline should provide clear, step-by-step guidance to MNR staff as they undertake fire management planning for protected areas. Easy-to-follow flow charts and summary tables in the Guideline should assist planning teams as they navigate through the process, and also help stakeholders and the public understand how fire response and fire management plans are developed. Moreover, plan templates and the supplementary Fire Management Planning Toolkit, including examples of fire response and fire management plans, should help ensure that developed plans are consistent and complete. The Guideline clarifies the planning responsibilities of specific MNR branches and staff, and articulates the approval levels and review requirements for fire management planning. This helps ensure accountability. Furthermore, the Guideline's direction to consider information and advice from Aboriginal communities, and to conduct required public consultation throughout the planning process, increases transparency.

According to MNR, lack of policy direction, absence of guidelines to support planning, lack of communication between MNR branches, and confusion over roles and responsibilities have all played a part in hampering the ministry's broader success in developing fire management direction for protected areas. This new Guideline should ease the planning process and, consequently, increase the number of protected areas with fire response plans, fire management plans or fire management content in their management direction.

Public Participation & EBR Process

MNR posted the draft Guideline on the Environmental Registry in January 2011 for a 46-day comment period, during which the ministry received three comments. After reviewing the comments and revising the Guideline, MNR posted the final document in November 2011.

The three received comments related to the consultation of Aboriginal communities during the fire management planning process. Commenters expressed concerns that the Guideline: fails to adequately reflect the importance of the Crown's duty to consult Aboriginal communities; does not indicate how traditional knowledge will be collected and incorporated into planning activities; and provides little assurance that Aboriginal values will be identified and protected. MNR revised the Guideline to reflect these comments.

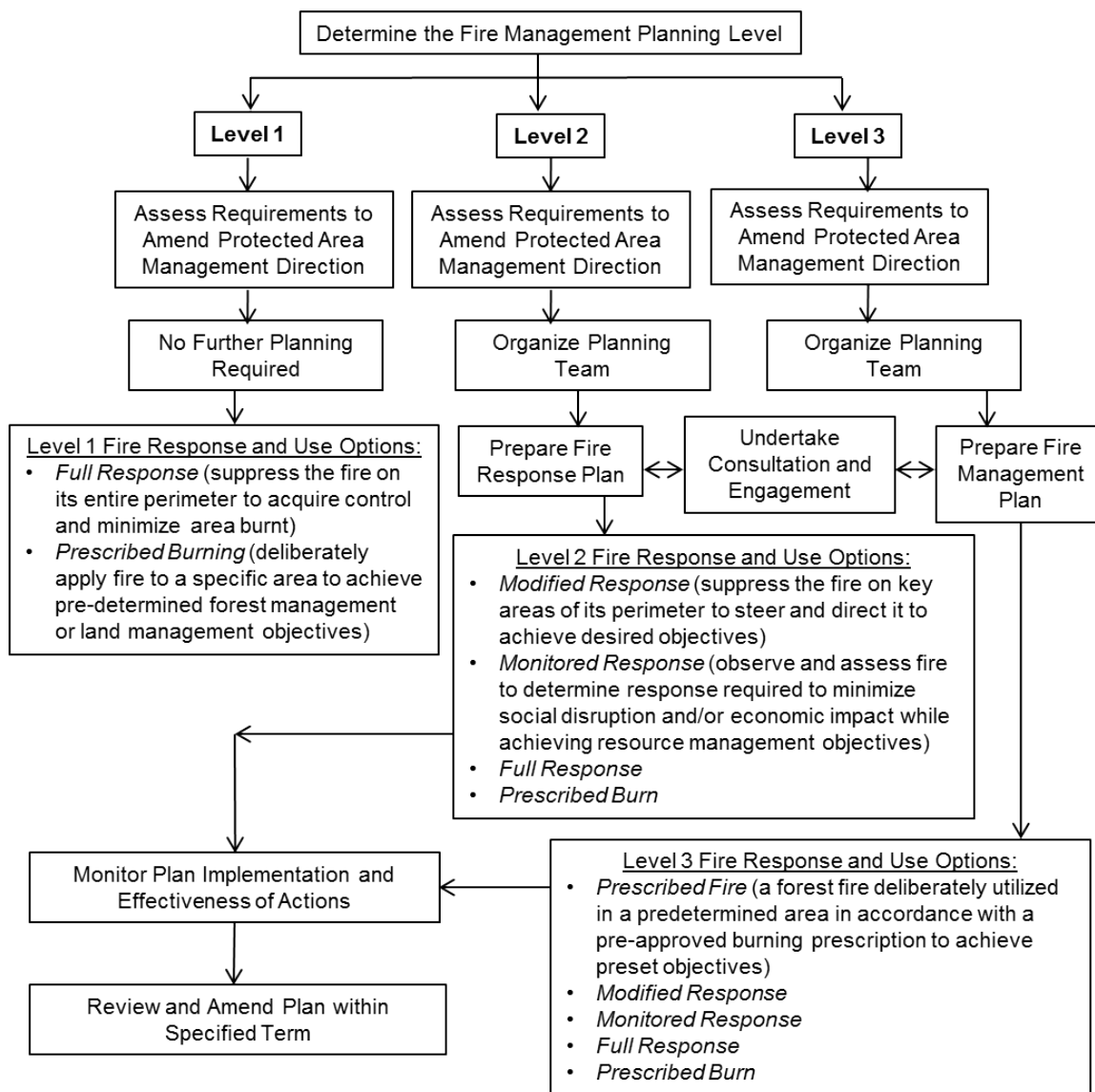


Figure 1. Overview of MNR's Fire Management Planning Process for Protected Areas (Adapted from the Fire Management Planning Guideline for Provincial Parks and Conservation Reserves, MNR 2011.)

SEV

MNR considered its Statement of Environmental Values (SEV) in developing and approving the Guideline. In its SEV consideration document, MNR clearly and thoroughly responded to how the Guideline applies the SEV's principles, including: a sound understanding of natural and ecological systems; the exercise of caution in the face of uncertainty; the valuation of natural resources; the use of adaptive management; environmental protection; public consultation; and the prevention of negative environmental impacts before undertaking new activities.

ECO Comment

The ECO applauds MNR for clearly acknowledging the importance of fire in restoring and maintaining the ecological health of ecosystems in Ontario's protected areas, and for providing detailed guidance for the development of fire management directions. The Guideline's templates, schematics, tables, examples of

fire response and fire management plans and assignment of responsibilities should provide an easy-to-follow path for MNR staff when navigating the fire management planning process. When the ECO previously reviewed MNR's only completed fire management plan – the Quetico Provincial Park Forest Fire Management Plan – the ECO noted that the plan lacked clarity and precision, and that its vague language offered little predictability of the plan's outcomes. The ECO expects that the new Guideline will help MNR develop clear, unambiguous fire response and fire management plans that articulate the fire management goals and objectives of a protected area, and the specific responses and uses necessary to achieve them.

The ECO cautions, however, that in order to offset MNR's history of fire suppression, fire management plans must include prescribed fire and burns as specified actions; fire management plans that fail to aggressively promote fire use will be ineffective at breaking MNR's habit to repress this ecologically important disturbance, and will continue to allow the alteration and disruption of forest health. The ECO is encouraged by the Guideline's repeated references to ecological integrity, particularly MNR's suggestion that a goal statement for a protected area's fire management plan may be "to restore fire as an integral ecosystem process for sustaining and restoring ecological integrity while ensuring the prevention of value loss, personal injury, economic and social disruption." The ECO hopes this translates into fire response and management plans that prioritize the maintenance and restoration of ecological integrity and that clearly indicate how this goal will be achieved. Moreover, the ECO is pleased that MNR's guidance directs staff to assess projected changes to a protected area's fire regime due to a changing climate, and hopes that this information is thoroughly factored into future plans to improve their ability to preserve the ecological integrity of Ontario's protected areas. Nevertheless, the ECO reiterates that fundamental to maintaining and restoring ecological integrity in protected areas is the restoration of fire to its role as a naturally occurring and ecologically necessary process.

Even though the 2004 Forest Fire Management Strategy directed that fire management plans are to be developed for each park in the Parks Zone (subject to available park resources), over eight years later only one of the eleven parks in the zone has a completed plan. Without park-specific fire management plans, fire management in the zone's other ten parks is directed by the Strategy. As a result, despite the fact that there may be an excellent opportunity to use prescribed fire in the wilderness portion of Algonquin Park, the current fire response for Algonquin – as described in the Forest Fire Management Strategy for Ontario – is to generally fully suppress fire until extinguished. The ECO again urges MNR to develop forest fire management plans for the remaining parks, and post these plans on the Environmental Registry for public comment.

Review of Posted Decision:

1.14 Categorizing and Protecting Habitat under the *Endangered Species Act, 2007*

Decision Information

Registry Number: 011-2841
Proposal Posted: April 29, 2011
Decision Posted: February 15, 2012

Comment Period: 45 days
Number of Comments: 21
Decision Implemented: February 2, 2012

Keywords: habitat; species at risk; *Endangered Species Act, 2007*; permit; damage or destroy

Description

Overview

One of the key protections afforded endangered and threatened species under Ontario's *Endangered Species Act, 2007 (ESA)* is the prohibition in section 10(1) on damaging or destroying their habitat. This protection is essential, as habitat loss and alteration are the most significant threats to species at risk in Ontario. However, for this protection to be effective, it must be clear what constitutes damage or destruction of habitat. In February 2012, the Ministry of Natural Resources (MNR) released a new policy and guidance document, *Categorizing and Protecting Habitat under the Endangered Species Act* (the "Policy"), which sets out the ministry's approach to determining whether a proposed activity is likely to damage or destroy the habitat of species at risk.

Background

The Endangered Species Act, 2007:

Ontario's *ESA*, administered by the MNR, is intended to: identify and designate species that are at risk in Ontario (including species of mammals, birds, reptiles, amphibians, fishes, insects, molluscs, vascular plants, mosses and lichens); protect those species and their habitat; and promote their recovery through stewardship activities and other means. At the time of writing, there are 96 species in Ontario listed as endangered, 55 species listed as threatened, 47 species listed as special concern, and 14 species identified as extirpated.

When the current *ESA* came into force in June 2008, it replaced an outdated law that was considered to be largely ineffective at protecting species at risk. While the old law protected the habitat of endangered species, that protection was unconditional, leaving no flexibility to address conflicts between land uses – particularly on private property – and the public interest in protecting vulnerable species. That inflexibility was blamed for government reluctance to list species under the old law, effectively undermining the purpose of the legislation.

By contrast, the prohibition on damaging or destroying habitat under the new *ESA* is balanced by the power of the Minister of Natural Resources to issue permits authorizing people in certain circumstances to engage in activities that would otherwise be prohibited under the Act. Nevertheless, uncertainty regarding what activities would require a permit (i.e., what activities would be considered to "damage or destroy" habitat) has caused some trepidation about the new regime.

What is Habitat?

Habitat for a species is defined as either regulated habitat or general habitat:

- **Regulated habitat** is an area prescribed in O. Reg 242/08 made under the *ESA*. The habitat regulation may describe specific boundaries for the habitat area and its features, and prescribe areas where the species lives, used to live or is believed to be capable of living. Regulated habitat may consist of an area that is larger, smaller or equivalent to the area that would apply under the *ESA*'s general definition of "habitat" (see below).
- If no habitat regulation exists for a particular species, that species' habitat, referred to as **general habitat**, consists of "an area on which the species depends, directly or indirectly, to carry on its life processes, including life processes such as reproduction, rearing, hibernation, migration or feeding."

The Act's section 10(1) prohibition on damaging or destroying habitat applies to a species' habitat whether it is general or regulated habitat.

Categorizing and Protecting Habitat under the ESA:

The purpose of the new Policy is to establish MNR's approach to determining whether a proposed activity is likely to damage or destroy habitat. The Policy is primarily intended to assist MNR in ascertaining whether a permit is required for a planned activity (i.e., any commercial or non-commercial undertaking). It will also be used for enforcement purposes, to determine whether a person has damaged or destroyed habitat in contravention of the Act.

The Policy's guiding principles for determining whether a proposed activity would contravene the habitat protection provision under section 10(1) of the *ESA* include considering the purpose of the *ESA* and using an adaptive management approach. The Policy also states that decisions will be made based on the best scientific information and will use a risk management approach. Where the effects of an activity cannot be confidently predicted, "determinations will err on the side of caution in favour of affording greater protection to the habitat." Determinations will be made on a case-by-case basis. Determinations are to be based on a "spatial scale that is ecologically relevant for the species," which means that the scale considered may differ between species and locations and "range from a few square metres to a much broader landscape scale."

The Policy emphasizes that "not all activities that alter habitat will damage or destroy that habitat. **Habitat is not a 'no activity zone' for all human activities.**" For the purposes of the *ESA*, the Policy defines "damage" to mean altering habitat "in ways that *impair* the function (usefulness) of the habitat for supporting one or more of the species' life processes"; while "destroy" means altering habitat "in ways that *eliminate* the function (usefulness) of the habitat."

To determine whether a proposed activity is likely to damage or destroy habitat, the Policy requires consideration of the following factors:

- details of the activity (e.g., spatial footprint, location, timing and duration, methodology, indirect effects; how cumulative effects of other activities may intensify the effects of the activity);
- which parts of the habitat are likely to be altered; and
- how the alteration may affect the species' ability to carry out its life processes (e.g., reproduction, hibernation, migration, feeding).

The Policy establishes a framework for categorizing areas of a species' habitat based on the species' anticipated tolerance to disturbance of those areas, with Category 1 (red) being the most highly sensitive habitat areas, Category 2 (orange) being moderately sensitive habitat areas and Category 3 (yellow) being highly tolerant habitat areas (see Table 1, below). Based on this approach, almost all activities in Category 1 habitat would require an authorization, while only the highest impact, large scale activities would require authorization to proceed in Category 3 habitat. The categorization of habitat will also "help to inform the conditions that may be required for an authorization," in that more stringent conditions would likely be attached to an authorization to damage or destroy Category 1 habitat than Category 3 habitat.

Table 1. Habitat Categorization Based on Anticipated Tolerance to Disturbance. (Adapted from: Habitat Categorization Categorizing and Protecting Habitat under the *Endangered Species Act, 2007*, Ontario Ministry of Natural Resources, 2012.)

	CATEGORY 1 (Red)	CATEGORY 2 (Orange)	CATEGORY 3 (Yellow)
Examples of habitat usage	Breeding, overwintering habitat; localized areas used by large number of individuals relative to population size; areas known to be habitually used	Other areas used by a species to carry out daily activities, such as frequently used foraging areas	Areas used less frequently, such as areas used for traveling to/from preferred habitat or occasional foraging areas
Tolerance to disturbance	Species have lowest tolerance to habitat alteration	Species have moderate tolerance to habitat alteration	Species have highest tolerance to habitat alteration
Potential impacts	Activities are likely to damage or destroy	Most small-impact activities are not likely to damage or destroy; some larger impact activities are likely to damage and destroy	Almost no small-impact activities are likely to damage or destroy; some larger impact activities are likely to damage and destroy
Authorizations required	Authorization generally required (most stringent conditions)	Authorization required for some larger impact activities	Authorization required for some larger impact activities (least stringent conditions)

The Policy includes a table of factors to be considered when categorizing habitat, including “use of habitat” factors (life process; concentration of individuals; frequency or duration of use; habitual use; and specialized ecological requirements) and “characteristics of habitat” factors (availability in the Province; limiting influence of habitat; resiliency or restorability of habitat; relationship to Category 1 Habitat; number of species at risk; and habitat disturbance thresholds). The table does not prescribe specific categorizations, but provides examples for each factor in which there will be less tolerance for disturbance.

Information Gathering Form:

MNR developed an Information Gathering Form for Activities that may affect Species or Habitat protected under the Endangered Species Act (the “Information Gathering Form,”) in conjunction with the Policy. The Policy requires proponents to complete the 13-page form and submit it to MNR so that the ministry may determine whether the proposed activity is likely to damage or destroy habitat. As its full title suggests, the Information Gathering Form will also be used to identify activities that would contravene the prohibition on harming or harassing species under subsection 9(1) of the *ESA*.

The Information Gathering Form is intended to identify: whether there are any species at risk at or near the location of the proposed activity; the potential effects of the activity on any species at risk and their habitats; and whether it is advisable for the proponent to apply for a permit under the *ESA* to authorize the activity. Proponents are required to provide detailed information regarding: the proposed activity and its duration; project location and current land uses; any species at risk that may be present at or near the project location (based on records reviews and field surveys to be conducted by the proponent); and how species at risk and habitat may be affected by the proposed activity.

The Environmental Registry notice for the Policy included a link to the draft form. There is also a companion guide for the form that explains the form's legal context and purpose, provides instructions for completing the form and includes a list of information sources about species at risk.

Implications of the Decision

MNR reports that it reviews an estimated 4,000 to 5,000 projects per year regarding potential *ESA* authorizations, and, as of May 3, 2012, had issued 511 permits since the Act came into force in 2008, many of them for damaging or destroying habitat. Releasing this policy provides a new level of transparency to that process, as it shares with the public MNR's approach to applying the *ESA* section 10(1) prohibition and to making decisions that could potentially put habitat at risk. The Policy should also clarify some misconceptions and uncertainties about the *ESA* habitat protection; in particular, explaining that habitat is not automatically off-limits to all activities should alleviate some of the public's concerns about the *ESA*.

However, public uncertainty will likely linger; the habitat characterization approach is far from formulaic. Due to the unavoidably case-by-case nature of each species' habitat needs, it may be difficult to predict how MNR would categorize habitat in any given case – and thus decide whether *ESA* authorization is required, or on what conditions. The subjective nature of the approach (i.e., using a sliding scale of more or less tolerance to categorize habitat) may also lead to inconsistent – and potentially damaging – decisions regarding permitting needs.

Basing “damage or destroy” determinations on functionality or usefulness of habitat (or lack thereof) could be problematic, as it may be challenging in some cases to ascertain habitat functionality or to anticipate the effects of a proposed activity on habitat functionality. The ECO expressed concern about this approach in Part 3.4 of our 2009/2010 Annual Report, in reference to proposed MNR technical guidance about forestry and aggregate extraction within the regulated habitats of peregrine falcon and wood turtle. Using a functionality/usefulness approach, MNR took the position that harvesting that retains residual forest and existing aggregate extraction were both activities that may not damage or destroy the regulated habitat of those species. While MNR has, in this Policy, provided more details about how habitat functionality is assessed, it remains a subjective process that will need to be exercised with caution.

MNR's effectiveness in determining whether authorization is required will depend largely on the reliability and completeness of information provided by the proponent in the Information Gathering Form. Inaccurate or incomplete information, if not caught, could lead to incorrect determinations by MNR and, consequently, result in the damage or destruction of habitat. The Policy does not indicate whether or how MNR plans to undertake any effectiveness monitoring of the Policy.

Finally, while “activity” is defined broadly in the Policy to include any commercial or non-commercial undertaking, in practice, as in the past, it is likely only those who are already aware of species at risk habitat at or near their proposed activities, who are engaged in large-scale projects and/or who are prompted to consider the need for an *ESA* permit through another process (e.g., land use planning, renewable energy approval) that will seek a determination from MNR about whether authorization is required.

Public Participation & EBR Process

The ministry provided a 45-day comment period for this proposal on the Environmental Registry, and received 21 comments in response.

Public comments on the draft Policy were polarized. Some commenters believed that species at risk habitat should be protected absolutely as a “no activity zone,” while others were vehemently opposed to the level of interference with private property rights imposed by the *ESA* and the policy. Public utilities expressed concern about their ability to “continue essential, legally required maintenance or perform emergency response/repair activities if they conflict with habitat protection requirements.” Agriculture

industry commenters fundamentally opposed applying *ESA* permit requirements to agricultural activities. Forest industry commenters referred to the Policy (as well as the Submission Standards for Activity Review and 17 (2)(c) Overall Benefit Permits) as “process laden, costly and ultimately unworkable and unnecessary for the forest sector of Ontario.” Other commenters were concerned about MNR’s capacity to handle an increased administrative load and about delays in obtaining approval for existing activities.

While some environmental non-governmental organizations (ENGOS) praised MNR for the level of detail and clarity laid out in the draft Guide, they expressed deep concern about some of the assumptions underlying the proposed framework for categorizing habitat. One ENGO condemned the draft Policy for its “simplistic treatment of complex interrelationships;” that ENGO and others were critical of the Policy’s focus on the tolerance of habitats instead of the species’ tolerance: “the ultimate metric is the status of the population(s) in question.” Another stated that the Policy needed to explicitly enshrine the precautionary principle. Some ENGOS were also disappointed that cumulative effects were not ascribed sufficient importance in the draft Policy.

One commenter observed that MNR’s approach in the Policy leaves a legislative gap, as it “is only effective for those who are aware of the legislation and for those species that we are aware exist in a particular location.” The commenter suggested making species at risk mapping available and engaging in public outreach to ensure landowners and other proponents are aware that species at risk may be present in the first place.

In the decision notice, MNR provided a detailed account of the effects of public consultation on the ministry’s decision. In particular, MNR made substantial changes to its habitat characterization framework in the final document in response to public comments (i.e., instead of categorizing habitat into “features,” “direct” or “indirect,” the framework is now based on a habitat’s level of tolerance to disturbance based on an enumerated set of factors).

SEV

MNR explained how it considered the principles of its Statement of Environmental Values (SEV) in a detailed SEV-consideration document. MNR noted that the approach described in the Policy “will eliminate unnecessary or arbitrary restrictions to activities in habitat while ensuring that the function (usefulness) of a species’ habitat is not compromised.” MNR also cites the Policy’s risk management approach to demonstrate that, in the face of incomplete or uncertain information, MNR will err on the side of caution to protect habitat.

Other Information

Habitat Protection Policy

In July 2008, MNR released a policy entitled *Habitat Protection for Endangered, Threatened and Extirpated Species under the Endangered Species Act, 2007* (the “habitat protection policy”). The habitat protection policy was intended to provide direction to MNR on identifying and protecting habitat under the *ESA*. The document explains the difference between general and regulated habitat, and, regarding the section 10(1) prohibition, states:

To the extent possible, MNR will provide greater certainty to affected landowners, land managers and stakeholders by clarifying the areas protected as habitat under the *ESA* 2007 and the types of activities that may lead to habitat damage or destruction.

Overall Benefit Guide

MNR consulted the public on this Policy simultaneously with another *ESA* policy and guidance document, entitled Submission Standards for Activity Review and 17 (2)(c) Overall Benefit Permits, (the “overall benefit guide”, Registry #011-2842). Under the *ESA*, the Minister may issue a permit that authorizes a person to engage in an activity that is prohibited under the Act (such as an activity that has been determined to likely damage or destroy habitat, in accordance with this Policy) if an “overall benefit” to the species will be achieved. The overall benefit guide explains the overall benefit permitting process and describes actions that could potentially provide for an overall benefit.

For more information about an overall benefit permit issued in 2011 regarding the provincially threatened Blanding’s turtle, refer to Section 1.16 of this Supplement.

ECO Comment

The *ESA*’s success in protecting and recovering species is dependent on MNR’s approach to implementing the Act. The significance of this Policy cannot be overstated; decisions about what activities are acceptable – without authorization – in the habitat of species at risk could have long-term and potentially irreversible consequences for the province’s most vulnerable species.

The ECO is pleased that MNR described its process for assessing the impacts of proposed activities on habitat; we have been calling on MNR to explain its approach to implementing various aspects of the *ESA* for some time. While some uncertainty remains due to the case-by-case and subjective nature of determinations about impacts on habitat, MNR has at least improved transparency surrounding its approvals process for proponents and other stakeholders.

The ECO believes that the process could be made more predictable if species-specific habitat categorization guidance was provided in the recovery planning process for each species. This approach would enable proponents and ministry staff, in at least some cases, to ascertain with greater certainty the likely impacts of an activity on a particular species’ habitat, and thus the need for *ESA* authorization.

As mentioned above, the accuracy of MNR’s assessment of the need for authorization may be limited by the quality of information provided by a proponent. The ECO urges MNR to develop a process for verifying the information provided in Information Gathering Forms. MNR should strictly adhere to the Policy’s guiding principle of exercising caution in the face of information gaps or uncertainty, and clearly document the information upon which it ultimately bases its decisions (perhaps within the permits themselves) to ensure greater accountability and transparency.

Even more importantly, MNR should establish a process for measuring its effectiveness at determining whether a particular activity will damage or destroy habitat – including the ministry’s approach based on habitat functionality – by monitoring the outcomes on habitat of activities that are deemed by MNR to not require authorization, as well as those that are determined to require a permit. This follow-up is critical, considering what is at stake.

Review of Posted Decision:

1.15 Three-year Exemption for Agricultural Operations from the *Endangered Species Act, 2007* Protection Provisions for Bobolink

Decision Information

Registry Number: 011-2901
Proposal Posted: April 15, 2011
Decision Posted: August 16, 2011

Comment Period: 31 days
Number of Comments: 102
Decision Implemented: June 3, 2011

Keywords: bobolink; *Endangered Species Act, 2007*; species at risk; agriculture

Description

Overview

The bobolink (*Dolichonyx oryzivorus*) is a medium-sized migratory songbird that breeds and nests in hayfields and pastures in Ontario each spring (see Figure 1). The species was classified as threatened under the province's *Endangered Species Act, 2007* (ESA) on September 28, 2010. The ESA prohibits the harming or harassing of threatened and endangered species, as well as the damage or destruction of their habitat.

In spring 2011, the Ministry of Natural Resources (MNR) proposed a three-year exemption for agricultural operations from the ESA's protection provisions for bobolink. This exemption was finalized in an amendment to the General Regulation under the ESA in June 2011. At the same time, MNR also established a multi-stakeholder advisory group to assist in developing a long-term strategy for bobolink recovery.

Background

The bobolink has one of the longest annual migrations of any songbird, travelling a 20,000 kilometre round trip every year. The species nests in Canada and the United States, migrates through Central and South America and spends winters in Bolivia, Brazil, Paraguay and Argentina. Approximately 28 per cent of the global population breeds in Canada, with about 45 per cent of the Canadian population occurring in Ontario.

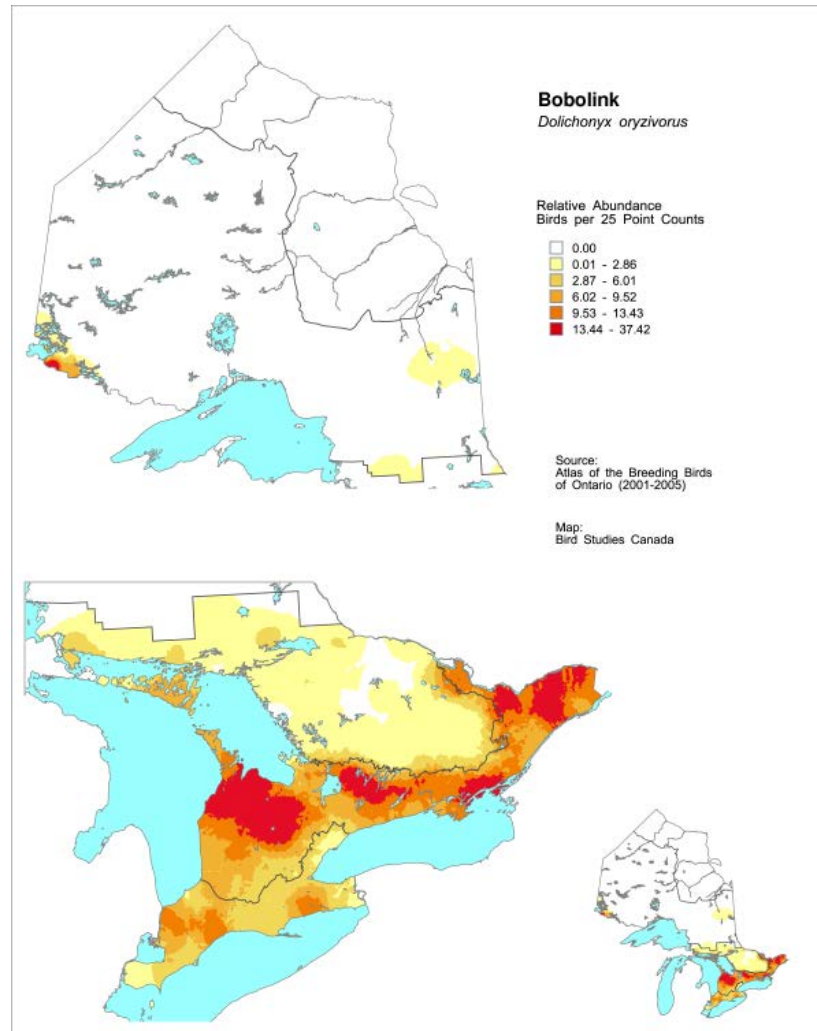


Figure 1. Approximate Range of Bobolink in Ontario (Source: Atlas of the Breeding Birds of Ontario, 2001-2005.)

In Canada, bobolink were historically associated with tall-grass prairie habitat, which occurred in southern parts of Manitoba and Ontario. However, as much of their breeding habitat was lost, bobolink now nest primarily in agricultural hayfields and livestock pasture lands in the province. On its migration path through Central and South America, bobolink are found mainly in rice fields, where the species is considered an agricultural pest.

Bobolink return to Ontario from migration for their breeding period in May to early June. Females construct nests on the ground at the base of grasses, where they lay their eggs.

Data show that over the past decade, Ontario's bobolink population has been declining by about 7 per cent per year, resulting in a total decline of 52 per cent between 1998 and 2008. Several probable causes of the decline in bobolink populations across its range have been identified: incidental mortality from agricultural operations, such as hay harvesting, that destroy nests and kill adults; habitat loss caused by the conversion of pasture lands to crop lands such as soy and corn; habitat fragmentation, which promotes higher rates of predation on nests located near pasture edges; and pesticide use on both breeding and wintering grounds, which may cause both direct and indirect mortality.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has classified bobolink as threatened across the country. However, the species is not currently regulated under the federal *Species at Risk Act, 2002*. In Canada, bobolink as well as their nests and eggs are protected under the *Migratory Birds Convention Act, 1994 (MBCA)*; a regulation under the *MBCA* prohibits the killing of bobolink and the destruction of their eggs or nests.

Bobolink and Ontario's Endangered Species Act, 2007:

In Ontario, the Committee on the Status of Species at Risk in Ontario (COSSARO) is responsible for providing independent, science-based assessments for species at risk. COSSARO determines if a species is at risk by examining population and distribution data against established quantitative criteria. If a species is classified as at risk, it is then included on the Species at Risk in Ontario (SARO) List (O. Reg. 230/08) and is protected under the *ESA*. Although the province's current breeding population of bobolink is estimated at 400,000 pairs, ongoing and drastic population declines and decreases in its range size have led to the listing of the species as threatened under the *ESA*. In fact, the declines in bobolink populations qualify under quantitative criteria as endangered in Ontario; however, the species was downgraded to threatened due to the possibility of rescue effect (i.e., that immigrants from U.S. populations could adapt and survive in Ontario).

The bobolink was added to the official SARO List on September 28, 2010. The species and its general habitat were protected under the *ESA* beginning that day; that is, the harming or harassing of bobolinks and the damage or destruction of its habitat were prohibited across the province. Under the *ESA*, a recovery strategy is required to be prepared for a threatened species by the second anniversary of its listing and will be required for bobolink by September 28, 2012 (see Figure 2). The government is also required to publish a statement that summarizes the actions it will take in response to the recovery strategy (its government response statement) nine months later, in this case on June 28, 2013. A habitat regulation for bobolink will be required by September 28, 2013.



Figure 2. Approximate Timeline for *Endangered Species Act, 2007* Recovery Planning and Protections for Bobolink in Ontario. (COSSARO = Committee on the Status of Species at Risk in Ontario.)

Agriculture in Ontario and Bobolink:

MNR estimates that 10,000 to 30,000 farmers and rural landowners may have bobolink on their lands. In breeding habitats, bobolink nest primarily in forage crops that are dominated by a variety of species, such as clover, tall grasses and broadleaved plants; rather than monocultures. Hayfields and pastures are "preferred habitat due to the plant cover present at the start of the nesting season; such cover is generally absent from grain fields." Generally, bobolink do not occupy fields of crops such as corn, soybean or wheat; or in areas of high shrub density or intensively grazed pastures. Therefore, bobolink are dependent on agricultural hay and pasture lands for survival in Ontario.

The bobolink breeding period in late June is increasingly overlapping with the hay harvesting season. Modern agricultural techniques favour earlier and more frequent cutting of hay fields. In part due to climate change, hay is now cut approximately two weeks earlier than it was in the 1950s. Some experts suggest that if hay harvest operations are moved even seven to 10 days later, nesting success rates increase dramatically and mortality is greatly reduced. However, farmers are reluctant to delay haying time, as this period is when hay is at its highest nutritional value for livestock. Some stakeholders have

expressed concern that a failure to hay before the end of June may have downstream impacts on livestock health and quality of meat and dairy products.

Proposed Three-Year Exemption for Agricultural Activities:

In spring 2011, a collaborative group of stakeholders from both agricultural and conservation interest groups submitted a proposal to MNR requesting an immediate three-year exemption from the prohibitions for bobolink under the *ESA* for farmers undertaking normal agricultural practices. This coalition stated that as haying was considered a factor in population declines, “the designation of bobolink as threatened puts farmers in a position of potential contravention of the *ESA* as a result of normal farming practices.” The coalition noted that farmers were integral to developing a solution to halt or reverse bobolink declines and reasoned that the three-year exemption would allow the government to work with farmers to develop a longer-term plan for bobolink conservation.

The farm/conservancy coalition group also recommended that an incentive and research program for grasslands stewardship be linked with this exemption. The coalition suggested that key elements of such an incentive program could include: dedicated funding for stewardship incentives for bobolink and other grassland species of conservation concern; establishment of on-farm research pilot projects; establishing a bobolink stakeholder working group, and targeted outreach to support landowner conservation efforts. The coalition stated that the proposed approach would “provide the flexibility and support needed to allow farmers to both protect their livelihoods and assist with the protection and recovery of bobolink and other species of conservation concern.”

On April 15, 2011, MNR posted a proposed amendment to the General Regulation under the *ESA* (O. Reg. 242/08) on the Environmental Registry that would provide a three-year “transition period” during which “certain provisions of the [*ESA*] protecting bobolink would not apply to a person carrying on an ‘agricultural operation’ as defined in the regulation.” The final regulation amendment came into force on June 3, 2011, providing an exemption for agriculture until October 31, 2014.

Implications of the Decision

Normal Farm Operations Continue in Bobolink Habitat for Three Years:

The regulation amendments put in place “a transitional exemption from the Act’s protection provisions for agricultural operations” that will remain in place until October 31, 2014. Farmers with nesting bobolink on their property will be permitted to undertake normal agricultural operations, such as draining, irrigating or cultivating land; growing, producing or raising farm animals or agricultural crops; ground and aerial spraying; producing eggs, cream and milk; or operating agricultural machinery and equipment without any fear of being prosecuted under the *ESA*, as long as the land remains suitable for agriculture. The exemption would not apply if listed permissible activities were undertaken while converting the land from agriculture for development or other purposes.

It may be permissible under the exemption for farmers to convert pasture lands or hay fields to be used for another agricultural purpose, such as conversion to crops such as soy or corn; as bobolink preferentially nest in hay fields, this type of conversion could serve to eliminate bobolink habitat.

The *ESA* exemption only applies to agriculture. No other purposes are exempted from the Act’s prohibitions. Therefore, other industries that could have potential contact with nesting bobolink – such as aggregate extraction or wind energy – cannot harm or harass bobolink or damage or destroy their habitat without necessary permits.

Establishment of a Bobolink Advisory Group:

Tied to the exemption, MNR also established a multi-stakeholder advisory group to assist in developing a long-term strategy for bobolink recovery. The advisory council or “roundtable” working group is co-chaired by representatives from Bird Studies Canada and the Ontario Federation of Agriculture, and has members from Ontario Nature, Couchiching Conservancy, the Ontario Cattlemen’s Association, Norfolk Alternative Land Use Services and from the aggregate, land development and wind energy industries.

The intent of the working group is to discuss best management practices, possible incentives and to identify research approaches. The working group is intended to provide MNR the opportunity to delve more deeply into socio-economic issues not discussed in the species' recovery strategy. This group may be beneficial in ensuring that landowners and farmers have the opportunity to work collaboratively with government to support bobolink recovery. However, given the mix of stakeholders involved, it may prove to be difficult for the group to come to consensus on contentious issues.

Other Grassland Species May be Considered in an Ecosystem Approach:

Under the *ESA*, recovery strategies or management plans may use an ecosystem approach to species recovery; however, this provision has not yet been formally employed. MNR stated that it "proposes to develop approaches for the protection and recovery of all grassland bird species (including bobolink) on a broad landscape scale that is consistent with an ecosystem approach." This type of approach would be consistent with what the collaborative stakeholder group requested prior to the passage of the regulation amendments. An ecosystem approach would also be in line with a current initiative by the federal government to create a conservation action plan for grassland birds.

An ecosystem or community approach would be beneficial to recovery efforts for other grassland songbirds at risk in Ontario, such as the Eastern meadowlark (*Sturnella magna*; see "Update" box below). The recovery team for bobolink may be examining an ecosystem approach by treating bobolink as a flagship species for grassland bird recovery.

Federal Migratory Birds Convention Act, 1994 (MBCA) Still Applies:

Despite the exemption under Ontario's *ESA*, the federal *MBCA* applies on all lands in Canada. The killing of bobolink or the destruction of their eggs or their nests is prohibited under the *MBCA* regulation. Under the Act and the regulation, there are no exemptions for agricultural or any other purposes; therefore, any accidental mortality or "incidental take" is technically a contravention of the federal Act. However, there are relatively few successful prosecutions under the *MBCA* and virtually no convictions have been obtained regarding bobolink deaths or nest destruction as a result of agricultural operations.

Public Participation & EBR Process

Public consultation on the Environmental Registry was provided for 31 days, from April 15, 2011 to May 16, 2011; 102 comments were submitted. Some commenters felt that the length of this comment period was too short given the controversial nature of the topic. The following is a summary of many of the comments submitted on this proposal.

Sixty-seven form letters were sent to the ministry, asserting that affected farmers and landowners were not appropriately consulted on the proposal. The letter states that "the effects on the Farmers and Landowners would be astronomical, the food chain could be jeopardized and in our opinion [with] no regard to the ownership and the years of knowledge that farmers/landowners have given to the food industry and the use of their lands." The form letter stated that the proposal should be reconsidered, removed, or brought before affected farmers and landowners.

Dairy Farmers of Ontario supported the exemption, and volunteered to participate in the advisory group. The organization also pointed out the numerous threats to bobolink through their migration and wintering period in South America, noting that Ontario's farmers and property owners were not the only parties responsible for the species' decline.

The Ontario Cattlemen's Association expressed concern that there was a lack of detail outlining options for stewardship incentives and compliance incentives tied with the exemption, and stated its hope that the proposed advisory group would address this shortcoming. The association stated that it was fully committed to working with MNR and other stakeholders on the bobolink recovery strategy, as it had a vested interest in reaching a mutually beneficial outcome.

Some local agricultural stakeholder groups commented on the proposal. For example, the Haldimand Federation of Agriculture supported the moratorium on the enforcement of the *ESA*, but voiced concern about the impacts on small livestock farmers at the end of the three-year period.

Industries outside of agriculture submitted comments. A letter from the Ontario Stone, Sand and Gravel Association provided its opinion that the mineral aggregate industry should also have been included in the regulation amendment, and provided with an exemption in a transition period. The Ontario Forest Industry Association commented that the forest sector was promised a long-term regulation under section 55(1)(b) of the *ESA* that would provide similar exemptions from species at risk prohibitions duplicative to those required already under the *Crown Forest Sustainability Act, 1994*.

Ontario Nature supported MNR's proposal to create a limited exemption for only three years and limited to agricultural purposes. They also supported the establishment of an advisory committee and urged the government to act swiftly to establish the group. However, the organization expressed concern that during the listing of bobolink, COSSARO had been under pressure to review and revise its assessment due to socio-economic reasons. Ontario Nature pointed out this pressure on the independent, science-based committee was inappropriate and not in the spirit of the *ESA*.

Municipalities commented on this proposal. For example, Tay Valley Township and Council strongly supported the transition period, noting that existing farm operations rely on more than one hay cut per season. The Region of Peel supported the proposal as well, recommending that MNR develop financial incentive programs and consult extensively with the agricultural community in developing avoidance and mitigation strategies.

The Ontario Federation of Anglers and Hunters recommended that the Minister of Natural Resources ask COSSARO to reassess its designation for bobolink, noting that "the COSSARO listing is ironically, in effect, probably contrary to the protection of the bird and its habitat in Ontario." The group voiced concern that, due to the listing, landowners could convert bobolink habitat for some other agricultural purpose and that this would accelerate the destruction of the species' habitat; it suggested that the species may be more appropriately classified as a species of special concern. However, the group supported the establishment of an advisory committee.

Conservation Ontario generally supported the exemption and the establishment of the advisory group. The organization encouraged research that would: determine the effectiveness of best management practices for bobolink and other grassland species of conservation concern; evaluate costs and benefits of grassland restoration for Ontario farmers; investigate costs and benefits of using native grasses for biomass fuel in relation to conservation of grassland birds; and determine how restored tall grass and other native grassland communities could better support bobolink and other declining grassland bird species.

Individual commenters also supported the exemption. One commenter noted that restricting harvest time post-nesting would severely affect the nutritional value and palatability of hay to livestock. The commenter noted concern regarding the downstream impacts this may have on milk and meat production.

MNR stated in its decision notice that the three-year length of the transition period was established to coincide with the development of a recovery strategy for bobolink and the government's response statement to the strategy. The ministry stated that as hayfields and pasture lands were primary habitat for bobolink in Ontario, participation of farmers and rural landowners was required while other sectors had "greater flexibility to adjust their activities" to avoid negatively affecting bobolink. MNR did not address comments regarding compensation or incentives for farmers, stating that the established advisory group would "consider a broad range of options over the next three years as part of the development of a longer term strategy for bobolink protection."

SEV

MNR considered its Statement of Environmental Values (SEV) in its decision to amend this regulation. The SEV-consideration document states that the exemption “is a proactive and cost-effective means to allow time to develop an effective strategy for bobolink protection and recovery while allowing existing activities that provide bobolink habitat to continue.”

The ministry noted that it was exercising caution in the face of uncertainty, noting that it did not expect that the exemption would result in a significant reduction in the number of members of the species that live in the wild during the transition period. MNR stated that “given the reasons for bobolink population declines are not well understood and the cooperation of the agricultural community will be an important component in protecting bobolink, the proposed transitional exemption combined with the development of a recovery strategy and establishment of an advisory group addresses the need for a longer-term approach to bobolink protection.”

MNR further stated that it “proposes to develop approaches for the protection and recovery of all grassland bird species (including bobolink) on a broad landscape scale that is consistent with an ecosystem approach.” It stated that the ministry would explore opportunities to restore or create tallgrass prairie and pasture land habitat as part of its development of a recovery strategy.

Other Information*Safe Harbour Agreements:*

Safe Harbour Agreements are instruments under the United States’ *Endangered Species Act (US ESA)* intended for use when landowners attract a species at risk to their property. A landowner enters into a Safe Harbour Agreement with the United States Fish and Wildlife Service to “restore, enhance or create habitat” for the benefit of a listed species. Under a Safe Harbour Agreement, the landowner is authorized to “take” (i.e., to harm or harass) an endangered or threatened species that may inhabit the property due to stewardship activities – so, the landowner can carry on with stewardship activities that may attract species at risk without fear of prosecution under the *US ESA*. The species at risk habitat existing on the property at the time of the agreement is considered a baseline; the landowner’s responsibilities with respect to habitat under the *US ESA* are frozen at that level.

In the U.S., Safe Harbour Agreements have been successful in promoting conservation without alienating private landowners and have had positive effects on landowner perceptions of species at risk. However, conservation or recovery benefits may only be temporary, because landowners can return the species at risk habitat on the property to the baseline condition at the end of the term of the agreement.

Prior to the passage of the *ESA* in Ontario, the Endangered Species Act Review Advisory Panel recommended to the Minister of Natural Resources that Safe Harbour Agreements should be authorized under the *ESA*. The *ESA* does include a provision authorizing the Minister of Natural Resources to enter into agreements for the purpose of “assisting in the protection or recovery of a species specified in the agreement that is listed on the Species at Risk in Ontario List;” and such an agreement may “authorize a party to the agreement to engage in an activity specified in the agreement that would otherwise be prohibited by section 9 or 10” (i.e., harming or harassing the species, or damaging or destroying its habitat). This stewardship agreement provision could give the Minister the legislative authority to enter into Safe Harbour Agreements.

Ontario Nature held a series of workshops in spring 2011 for agricultural and conservation stakeholders on the potential use of Safe Harbour Agreements in Ontario. Workshop participants were in favour of the agreements if implemented carefully: tying the agreements to programs familiar to farmers or landowners (e.g., Environmental Farm Plans); linking agreements with incentive programs; and beginning with a pilot project. A letter was sent to the Minister of Natural Resources on August 31, 2011 supporting the Safe Harbour concept, signed by a number of agricultural and conservation groups in the province.

Independence of the Committee on the Status of Species at Risk in Ontario:

COSSARO is tasked under the *ESA* with classifying species at risk of extinction or extirpation in Ontario. COSSARO must classify species based on the best available scientific information, including information from community knowledge and aboriginal traditional knowledge. The independent committee, consisting of government appointed members with relevant expertise, uses internationally developed quantitative criteria in its determinations of risk status.

The ECO has learned the COSSARO has been presented with socio-economic information at early stages of the listing process for some species, including bobolink. Further, the committee has been instructed by MNR to consult with particular stakeholder groups regarding previous species listings that some perceived as controversial. However, the eventual outcome and downstream impacts of the listing need not be considered when COSSARO classifies a particular species. Under the *ESA*, the time for review and taking into account socio-economic concerns – such as land use conflicts in species' habitats, or weighing economic risks of particular recovery actions – should be at the stage of the government's response statement (for more information, see Part 3.2 of the ECO's 2010/2011 Annual Report). This separation of science and socio-economic decision making is what was intended to make the *ESA* a strong and transparent statute. COSSARO's independence from later recovery planning stages is necessary in maintaining the integrity of the *ESA*.

ECO Comment

The ECO believes that the temporary exemption for agricultural operations from *ESA* provisions protecting bobolink was reasonable. As essential stewards of bobolink habitat, farmers will need to be active participants if the species is to be recovered. The ECO believes MNR's commitment to work with both agricultural and conservation groups is a positive step towards a solution to protect bobolink and conserve their habitat. It also makes sense that harm to bobolink or damage to their habitat by non-agricultural uses would continue to be prohibited.

UPDATE: Residential Development Activities Now Allowed to Destroy Bobolink or Eastern Meadowlark Habitat

A significant change to the regulation regarding the bobolink exemption has made the ECO reconsider its initial praise of MNR's willingness to work with farmers towards a solution for bobolink. On May 7, 2012, the Ministry of Natural Resources posted a decision notice on the Environmental Registry (#011-5372) for its Amendment to the Ontario Regulation 242/08 (General) under the *Endangered Species Act, 2007* respecting Eastern Meadowlark (*Sturnella magna*). The final regulation was more than a surprising departure from what had initially been proposed – it was a fundamental change in the nature of the proposal.

The decision notice states that the ministry has added a transition period to allow "residential development activities" to damage or destroy the habitat of eastern meadowlark and/or bobolink. Nowhere in the proposal notice was it suggested that this exemption would extend to residential development activities, or to bobolink.

The initial reason for the bobolink exemption, and subsequent eastern meadowlark exemption, was to encourage stewardship of the species' habitat by the agricultural community – since both bird species are dependent on agricultural hayfields and livestock pastures for breeding habitat. To this end, when developed for bobolink, the exemption was limited only to normal agricultural practices; the exemption would not apply for activities undertaken while converting the land from agriculture for development, or other purposes. Under the changes, bobolink and eastern meadowlark habitat can now be permanently destroyed by residential development activities approved prior to November 1, 2014, although some level of habitat must be replaced – ranging from 10 to 100 per cent of the habitat damaged or destroyed, depending on the type of development and when it was approved.

While there is a conservation imperative for the exemption for agricultural activities, there is no ecological reason for exempting residential development activities from *ESA* prohibitions for destroying

bobolink or eastern meadowlark habitat. The development exemption seems to discount the value of farmers' efforts in reaching a long-term solution for grassland bird conservation. Many of the commenters may have had another opinion if they had known that MNR planned to extend the exemption to residential development activities.

The ECO believes that this decision exemplifies a clear perversion of MNR's responsibilities under the *Environmental Bill of Rights, 1993 (EBR)*. Although the *EBR* provides the Minister with the power to determine whether a proposal has been so "fundamentally altered" as to become a new proposal, the ECO believes this discretionary power was used inappropriately in this case and that the ministry misled the public by failing to consult on the substantive content of the exemption. The decision notice in no way reflects what MNR consulted on, as it deals with an additional species at risk and a different industry. MNR was obligated to consult the public on this fundamental change from what was originally proposed, notwithstanding its claim that it made the changes because of public comments received. The ECO believes that this is a case of the ministry actively undermining the *EBR* (for further examples, please see Part 1 of the ECO's 2011/2012 Annual Report).

The ECO urges the ministry to plan and prepare for potential habitat use conflicts prior to June 30, 2013, when automatic general habitat protection will come into effect for 99 species at risk. For successful implementation of the *ESA*, the ministry should be anticipating this large number of new protected habitats and planning, educating and advertising in advance in order to avoid the confusion and anger that has occurred in the past. Further, the ECO is hopeful that new MNR guidance will assist staff, stakeholders and the public in understanding of how habitat protection works under the *ESA* and how MNR determines whether or not an activity is likely to damage or destroy habitat (for more information, see Section 1.14 of this Supplement: Categorizing and Protecting Habitat under the *Endangered Species Act, 2007*).

The ministry could develop and use instruments such as Safe Harbour Agreements to support landowner stewardship efforts. The ECO believes that the development of Safe Harbour Agreements in Ontario may be helpful in situations when landowners are key providers of species at risk habitat, as is the case for bobolink. However, the ECO cautions that the ministry should not use these agreements as a substitute for effective implementation of the *ESA*. Any such stewardship agreements should be used to complement an overall approach to species recovery. The ECO also expects that stewardship incentive options will be examined through the bobolink advisory group and in development of a government response statement.

Review of Posted Decision:

1.16 Overall Benefit Permit under the *Endangered Species Act, 2007* for Blanding's Turtle in Renfrew County

Decision Information

Registry Number: 011-2977
Proposal Posted: March 25, 2011
Decision Posted: July 19, 2011

Comment Period: 31 days
Number of Comments: 0
Decision Implemented: June 14, 2011

Geographic location: County of Renfrew (Petawawa)

Keywords: turtles; *Endangered Species Act, 2007*; species at risk; Renfrew County; permits and agreements; O. Reg. 681/94; overall benefit

Description

Overview

On June 14, 2011 the Minister of Natural Resources issued a permit to the County of Renfrew ("the County") under clause 17(2)(c) of the *Endangered Species Act, 2007 (ESA)* concerning Blanding's turtle, in order to upgrade a three-kilometre section of County Road 28 (Barron Canyon Road) near Petawawa, Ontario. The permit authorizes the County to engage in activities that would otherwise be prohibited by section 9 of the *ESA* (to kill, harm, harass, capture, possess and transport Blanding's turtle) during road reconstruction. The permit came into force the day it was issued and expires on December 31, 2012.

Background

Blanding's Turtle:

Blanding's turtle (*Emydoidea blandingii*) is a medium-sized freshwater turtle that lives primarily in wetlands but travels over land to find nesting sites. Blanding's turtles are designated as threatened at the provincial and federal level and are considered at risk in the majority of their global range. The species faces a number of threats, including development in wetlands and surrounding areas. In particular, the construction of roads poses a multi-pronged threat to this sensitive turtle species: higher mortality rates due to individuals being struck and killed when crossing roads; higher mortality of nesting females and hatchlings, as the turtles often nest on gravel roadsides; and fragmentation of habitat, isolating populations.

As Blanding's turtle is listed as threatened under the Species at Risk in Ontario List (O. Reg. 230/08), it is currently prohibited to kill, harm, harass, capture or take a living member of the species in the province. Habitat protection is not yet in place for Blanding's turtles under the *ESA*; general habitat protection will be in force on June 30, 2013, or earlier if a habitat regulation for the species is passed before that time.

Permits under the Endangered Species Act, 2007:

Under the *ESA*, the Minister of Natural Resources may issue permits that authorize a person to engage in activities otherwise prohibited under the Act with respect to an extirpated, endangered or threatened species. The minister can issue permits for four types of activities under section 17(2) of the *ESA*: (a) an activity that is necessary for protecting human health or safety; (b) an activity that will assist in a species' protection or recovery; (c) an activity in which protection or recovery is not the goal, but will result in an overall benefit to the species; or (d) an activity in which protection or recovery is not the goal, but will result in significant social or economic benefit to Ontario.

In this case, MNR issued an "overall benefit permit" or "C-permit." This type of permit can be issued if the Minister is of the opinion that the main purpose of the permit is not related to the protection or recovery of a species at risk, but meets the following legal test:

- An overall benefit to the species will be achieved within a reasonable time; and
- Reasonable alternatives have been considered, including alternatives that would not adversely affect the species, and the best alternative has been adopted; and
- Reasonable steps to minimize any adverse effects on individual members of the species are required as conditions of the permit.

A permit is only required to authorize activities that would currently be prohibited for that species under the *ESA*. This permit issued to the County is required due to the potential for individuals of the species to be killed or harmed during road reconstruction, not due to the potential for habitat destruction as habitat protection for Blanding's turtle is not yet in place.

Determining Overall Benefit:

In February 2012, MNR posted a policy and guidance document for overall benefit permits on the Environmental Registry (#011-2842). In the policy, the ministry states that overall benefit to a protected species involves "undertaking actions that contribute to improving circumstances for the species" and is

“more than no net loss or an exchange of like for like.” MNR lists a number of actions that could provide overall benefit, including: increasing the number of individuals or viability of a species or population; increasing its distribution; slowing or reversing a declining population trend; or increasing the quality or amount of habitat for the species. The ministry also states that the outcomes of overall benefit actions are intended to improve the species’ status after taking into account any adverse effects to the species or its habitat authorized by the permit.

Overall Benefit Permit for Blanding’s Turtle in Renfrew County:

The overall benefit permit concerning Blanding’s turtle was issued to Renfrew County in order to upgrade a three-kilometre section of Barron Canyon Road near Petawawa. The road work involved “widening and minor straightening of the road to improve access for emergency vehicles and measures to reduce the speed of vehicles.” Original road upgrade plans were redesigned to account for Blanding’s turtle.

The permit requires the County to install fencing, wildlife passage and road features intended to provide overall benefit to Blanding’s turtles. Large culverts will be installed at three specific locations to function as “eco-passages” to enable turtles to safely cross under the road and reduce road mortality. The County is also required to install permanent stone fencing that will guide turtles and other wildlife to the eco-passages. To deter roadside nesting, the road shoulders will be widened and hardened. Further, to create safe nesting locations, the County will install sand piles at regular intervals with fencing to guide turtles away from the road.

The ministry states that reasonable alternatives were considered, including alternatives that would not adversely affect the species, and the best alternative has been adopted. MNR stated that three options were examined: 1) the original road upgrade design, which did not include any features to provide alternate nesting sites, fencing or eco-passages to protect Blanding’s turtle from ongoing road mortality; 2) the alternative of not upgrading the road; and 3) the improved design, as adopted. The ministry stated that the alternative of not upgrading the road was considered not feasible as it would not address safety concerns or meet future transportation needs.

To minimize adverse effects on individual Blanding’s turtles during construction, the permit requires the County to install temporary barrier fencing around the entire project area to stop Blanding’s turtles from entering during the construction period. If any turtles are encountered within the area during construction, the County is required to have a qualified professional move the turtle to a safe area outside of the barrier fencing; for example, turtles that attempt to cross the road will be moved to the other side of the road. The permit also outlines specific instructions on managing and reporting nesting, injured and dead turtles.

The permit requires the County to keep a record of any encounters with Blanding’s turtles or nesting sites within the project area. The County is also required to submit a report to the Minister of Natural Resources no later than three months after the construction is completed, including its record of turtle encounters.

Implications of the Decision

The permit conditions appear to provide preventative measures that will protect turtles during road construction. Further, the new features such as guide fencing and culverts could reduce future mortality due to major road-related threats. Habitat fragmentation could also be reduced, as the eco-passages could provide a way of connecting the populations previously separated by Barron Canyon Road. As these features were not present prior to road reconstruction, they could provide the intended overall benefit to the Blanding’s turtle population in that region. However, quantitative baseline data and future monitoring are required to confirm this is the case.

The Environmental Registry notice for the proposal makes reference to “planned testing of alternative road design features,” such as the hardened road shoulders, in deterring nesting. It further states that “if these techniques prove successful the knowledge gained could be applied to protect Blanding’s Turtle throughout their range in Ontario.” However, it is not clear from the permit or the Registry notice what this

planned testing entails, such as who will monitor and collect the information and by what methods, or how it will be reported or incorporated into future recovery activities.

Public Participation & EBR Process

On March 25, 2011, MNR posted an instrument proposal notice for the overall benefit permit on the Environmental Registry for a 31-day comment period. During this time, no public comments were submitted to the ministry.

Notice of this permit was not required to be posted on the Environmental Registry, as the proponent is a municipal government and the species for which the permit was sought is an animal. Under O. Reg. 681/94 (Classification of Proposals for Instruments under the *EBR*), MNR is only required to post proposals for *ESA* permits: that do not apply to animals; for which the proponent is not the provincial government, a municipality or other public body; and that do not apply on Crown land or in a provincial park or conservation reserve. Nevertheless, MNR chose to give notice and invite comments on this proposal using the Registry; this transparency is a commendable action by MNR.

SEV

MNR considered principles described in its Statement of Environmental Values (SEV) in its decision to issue this permit. The ministry's SEV-consideration document provided to the ECO describes the principles of resource stewardship that MNR staff considered in the context of the proposal. For example, MNR stated that an understanding of the turtle's life history and impacts of roads on the species was achieved through research, listing a number of references that were used in the development of the road design features intended to provide an overall benefit to Blanding's turtles. The ministry also described its consideration of its principle to support applied research and information sharing, stating that successes and lessons learned during the project will be shared within the industry and transferred to other projects. The SEV-consideration document also describes how the ministry considered other principles, including: recognition of the finite capacity of natural systems; use of adaptive management; rehabilitation of degraded environments; value of natural resources; and public participation. MNR did not explicitly describe whether or how it considered every SEV principle.

ECO Comment

The ECO has previously identified the use of overall benefit permits as a key to the successful implementation of the *ESA*. The ECO noted that MNR should rigorously apply the Act's overall benefit test and the precautionary principle, including an assessment of cumulative impacts, when screening the appropriateness of authorizing activities that would harm, harass or kill species at risk. The conditions on this overall benefit permit appear to be fair and balanced, given that the road needed to be maintained for safety reasons. As the pre-existing road did not contain features such as eco-passages or nesting deterrents, the reconstruction of Barron Canyon Road seems to be an improvement for the species and, perhaps, its local habitat.

To determine if an overall benefit has actually taken place, baseline data collection combined with ongoing monitoring and analysis are essential. This type of "before-and-after" analysis may be particularly important now in the early years of *ESA* implementation, so MNR can learn from successful (or unsuccessful) strategies and inform future direction for issuing permits and species protection. The ECO urges MNR to undertake and report on follow-up studies done on this site – along a major access route to Algonquin Park – to understand whether or not the actions taken have indeed contributed to the overall benefit of the species. Further, as Blanding's turtle is a particularly sensitive species, the ECO cautions MNR to consider and track the cumulative impacts of any future permits issued for Blanding's turtle in the region.

Review of Posted Decision:**1.17 Provincial Wildlife Population Monitoring Program Plan Version 2.0****Decision Information**

Registry Number: 011-4230 (Information Notice)
Proposal Posted: December 12, 2011
Decision Posted: n/a

Comment Period: n/a
Number of Comments: n/a
Decision Implemented: June 25, 2010

Keywords: forestry; wildlife, birds; monitoring; Class Environmental Assessment

DescriptionOverview

The Ministry of Natural Resources (MNR) is responsible for ensuring the sustainable management of Ontario's Crown forests. Part of this responsibility requires an understanding about how forestry activities are affecting wildlife in our publicly-owned forests: healthy and sustainable forest ecosystems include healthy wildlife populations. The Provincial Wildlife Population Monitoring Program ("PWPMP") was established in 1994 to help MNR fulfil this responsibility.

In 2010, MNR updated its Provincial Wildlife Population Monitoring Program Plan ("Program Plan"). The purpose of the Program Plan is to describe the Provincial Wildlife Population Monitoring Program and outline its priorities, representative species to be monitored, and proposed activities and schedules.

BackgroundMNR's Timber Class EA and the Provincial Wildlife Population Monitoring Program

In 1994, after over four years of public hearings, the Environmental Assessment Board (EA Board, now the Environmental Review Tribunal) set out an admirable vision for the management of Ontario's forests in its decision to approve the Class Environmental Assessment for Timber Management on Crown Lands in Ontario (Timber Class EA).

During the hearings, MNR staff could not state with confidence that no wildlife populations in the province were suffering long-term declines due to timber management activities. The ministry therefore committed to monitor wildlife populations so that declines could be identified and attempts could be made to reverse those caused by timber management activities. Accordingly, several of the legally-binding terms and conditions of approval set by the EA Board related to monitoring, including assessing effects of timber management practices on protecting non-timber values such as wildlife.

Condition 81 of the Timber Class EA Approval established the requirement for MNR to develop and implement a monitoring program (the PWPMP) within the Area of the Undertaking of commercial timber harvesting (AOU), in order to monitor population trends of representative terrestrial vertebrate species. The intended purpose of the PWPMP was to understand the environmental effects of forestry activity on non-timber values that can only be detected at the provincial level – that is, to understand how forest management activities were affecting terrestrial wildlife species at a provincial, rather than local, scale. The PWPMP was also established to determine the effectiveness of forest management guides, with the belief that effective guidelines would result in sound environmental planning at the forest management unit level.

The Timber Class EA was approved for a fixed nine-year term in order to provide an opportunity for on-the-ground testing of the direction provided; for example, the EA Board expected that "results of monitoring will prove if MNR is protecting non-timber values. The results of research into biodiversity conservation and landscape management will show if these are more than good ideas and can actually be implemented and produce the benefits we expect." In 2003, MNR would need to seek re-approval from the Ministry of the Environment (MOE) for its Timber Class EA (see Table 1).

Table 1. Timeline: Provincial Wildlife Population Monitoring Program, established under the Ministry of Natural Resources' Class Environmental Assessment for Timber Management.

Year	Policy/Activity	Description
1990	Featured Species Policy	MNR stated objective: "to ensure that no species declines on a Provincial scale because of forest management activities"
1994	Class Environmental Assessment for Timber Management on Crown Lands in Ontario (Timber Class EA)	Legally-binding terms and conditions established, including for MNR to develop and implement a Provincial Wildlife Population Monitoring Program (PWPMP) within the Area of the Undertaking to monitor population trends of representative terrestrial vertebrate species
1994	<i>Crown Forest Sustainability Act, 1994</i>	Purpose of the Act is to provide sustainability (long-term forest health) of Crown forests
1997	Wildlife Monitoring Programs and Inventory Techniques for Ontario released	Document outlines rationale, goals and technical details of the PWPMP but is not posted for public consultation on the Environmental Registry as required by the <i>Environmental Bill of Rights, 1993 (EBR)</i> ; list of 92 wildlife species generated for monitoring
2002	Timber Class EA Review	MNR admits that the PWPMP has not been fully implemented as originally intended; suggests continuation of the Program because "monitoring the impacts of forest management activities on wildlife populations remains important"
2003	Declaration Order MNR-71 issued under the <i>Environmental Assessment Act</i> to extend the Timber Class EA (referred to as the Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario)	Updated condition in Class EA to require the establishment of a Program Plan that outlines priorities, representative species to be monitored, and proposed activities and schedules of the PWPMP
2004	Provincial Wildlife Population Monitoring Program Plan, Version 1.0	Program Plan reduces number of species to be monitored from 92 to 43; Program Plan is not posted for public consultation on the Environmental Registry
2007	Amendments to Declaration Order MNR-71 (MNR-71/2)	Updated condition removes requirement for reporting on PWPMP implementation in each provincial Annual Report on Forest Management and in each Five-Year EA Report
2009	Five-Year EA Report on Forest Management	Activities of the PWPMP are reported (despite the 2007 amendments to the Declaration Order), including discussion of partnership surveys, pilot studies and possible direction for future survey design
2010	Provincial Wildlife Population Monitoring Program Plan, Version 2.0 published on MNR website	Program Plan not posted for public consultation on the Environmental Registry; no explicit list of species to be targeted for monitoring
2011	Provincial Wildlife Population Monitoring Program Plan, Version 2.0 posted on the Environmental Registry	Posted as an "information notice" rather than a "proposal notice" depriving the public of rights under the <i>EBR</i>

Over the first years of the program, MNR established regional wildlife assessment units and determined key species to monitor and what type of survey methods to use. It also brought pre-established outside monitoring programs and surveys under the Program, such as migratory bird monitoring with the federal government and Long Point (later Bird Studies Canada) and Thunder Cape Bird Observatories and small mammal monitoring undertaken by the University of Guelph in Algonquin Provincial Park. In 1997, the ministry released a manual (Wildlife Monitoring Programs and Inventory Techniques) outlining the rationale, goals and technical details of the PWPMP. The 1997 manual described Ontario's responsibility for ensuring healthy populations of forest species. It also noted that the PWPMP would measure the success of MNR's 1990 "featured species" policy – which stated that no species would decline provincially as a result of forestry activities. Further, the manual stated the program would address actual use of habitat by wildlife, rather than simply the maintenance of habitat types.

By the end of the initial Timber Class EA approval period, MNR admitted that the wildlife population monitoring framework had not been fully implemented as it had been originally designed and that the ministry was unable to monitor all the species it had planned for. In its required 2002 Timber Class EA Review, the ministry outlined the challenges it had faced, including the difficulty in designing surveys for some species groups. However, MNR reaffirmed the importance of the wildlife monitoring program, noting the continuing need to monitor wildlife populations and to conduct research on the effects of forest management on wildlife habitat and wildlife populations.

In 2003, MOE approved a Declaration Order to extend the Timber Class EA, referred to as MNR's Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario (Declaration Order MNR-71). The Declaration Order reduced the number of required terms and conditions from the original Timber Class EA; MOE noted this was due to modifications in the forest management regime such as the introduction of the *Crown Forest Sustainability Act, 1994 (CFSA)* and its associated regulated manuals. Rather than having a fixed term like the previous Class EA approval, the Declaration Order does not have an expiration date and does not require MNR to seek periodic re-approval from MOE. By removing this re-approval requirement, MOE reduced its oversight role in forest management and distanced itself from monitoring MNR's compliance with its responsibilities initially approved through the Timber Class EA. At the time, this withdrawal by MOE raised concerns, as court decisions had documented MNR violations of its Timber Class EA.

Condition 30 of the 2003 Declaration Order reaffirmed the requirement for the PWPMP. The condition required a Program Plan to be prepared that outlined priorities, representative species to be monitored, and proposed activities and schedules for the program. MNR stated that MOE's reason for requiring a Program Plan was to add transparency, clarity, and accountability to the PWPMP. The Declaration Order also required MNR to report on the Program in its Annual Reports on Forest Management and provide updates to the Provincial Forest Technical Committee to assist in the review and revision of forest management guides. In 2004, MNR finalized its first Program Plan (version 1.0) as required by the Declaration Order.

MOE approved changes to the Declaration Order in 2007 (Declaration Order MNR-71/2). The changes removed the requirements for MNR to report on the on-going implementation of the PWPMP in each Annual Report on Forest Management and to provide a summary of its significant accomplishments in each Five-Year EA Report. In 2009, MNR published its required Five-Year EA Report on Forest Management, covering the years 2003 to 2008, which nevertheless included an overview of the Program's activities.

Funding Concerns and the Adequacy of Existing Monitoring Efforts

An effective monitoring program requires an adequate long-term sampling strategy to obtain statistically valid results, analysis and assessment of the information collected, and reporting to inform both policy and research direction. Prior to the approval of the Timber Class EA, MNR staff warned that providing low-level funding for the PWPMP would neither provide enough information to assist local managers in assessing effects of land use activities on wildlife nor meet the objectives of the program.

It appears that MNR has had long-standing funding barriers to implementing the PWPMP as it was originally intended. For example, in 1997, the ministry noted that the fiscal climate had not permitted staffing to the levels originally intended for its wildlife assessment units. Further, in 2008, MNR reported that “no field work was conducted during the summer of 2006 due to reduced budgets.” The ministry also stated that overall field staffing and funding levels would be insufficient to effectively address identified surveillance monitoring gaps.

The ECO has compared MNR’s initial program cost estimates to the program’s actual budget, which further illustrates financial deficiencies. In the initial development of the program in the early 1990s, MNR scientists suggested that an adequate budget for the PWPMP would be \$6.4 million (1991 dollars), including \$500,000 for transfer payments (to volunteer programs, migration monitoring programs and special projects). In contrast, the program’s entire budget in 2007 was \$543,000: for staffing, travel, infrastructure, partnership support, development and evaluation of sampling methodology and field operations. Adjusted to 2007 dollars, the PWPMP was receiving in 2007 only 6.3 per cent of the funding that had been initially recommended for the program.

2010 Provincial Wildlife Population Monitoring Program Plan

In June 2010, MNR finalized its second Program Plan (version 2.0) as required by the Declaration Order. The 2010 Program Plan sets out goals, objectives and monitoring questions to guide the activities of the PWPMP (see Table 2).

Table 2. Goals, objectives and questions directing the Provincial Wildlife Population Monitoring Program. (Source: MNR 2010. Provincial Wildlife Population Monitoring Program Plan, Version 2.0.)

Goal
<i>“To maintain, relative to what would be expected under a natural disturbance regime, all native terrestrial vertebrate wildlife species and their habitats as components of healthy ecosystems”</i>
Objectives
<ol style="list-style-type: none"> 1. Monitor and assess the status and trends of Ontario’s vertebrate wildlife populations and their habitats towards informing MNR policy and management decisions. 2. Collect and analyze data, and provide long-term assessment information and knowledge on representative terrestrial vertebrate species and habitats to support the evaluation of the Forest Management Guides. 3. Timely and efficient transfer of information and knowledge. 4. Continuous improvement of the program.
Monitoring Questions
<ol style="list-style-type: none"> 1. Across spatial scales and over time, what are the status and trends for species, species groups, and habitats (i.e., are all forest wildlife species being maintained in the Area of the Undertaking [AOU])? 2. Across spatial scales and over time, are the pattern, composition, structure, and quantity of habitats changing according to the predicted outcomes established in approved forest management plans (i.e., are the Forest Management Guides providing habitat as predicted over a broad scale)? 3. Across spatial scales and over time, are the populations of selected wildlife species changing in concert with the predicted outcomes of habitat change resulting from the implementation of approved forest management plans (i.e., on a broad scale, has implementation of the direction provided in the Forest Management Guides resulted in the expected direction of population change for selected wildlife species)?

Much of the content of the Program Plan closely follows its previous 2004 version. The ministry states that the PWPMP includes several integrated components:

- Investigation and development of techniques and protocols for detecting and collecting monitoring data for priority species;
- Surveillance monitoring (often with other MNR staff and external agencies) of species to inform the periodic assessment of species status;
- Targeted monitoring to support testing the effectiveness of forest management guides and to inform assessment of population change for specific species;
- Assessment of species' status to assist in setting priorities for targeted monitoring and to provide input to policy;
- Monitoring of habitat (through MNR's Forest Resources Inventory) to inform assessment of causes of population change; and
- Collaboration with research scientists and others within MNR, or with third-party organizations, on a variety of wildlife population-related projects.

Similar to its 2004 version, the Program Plan lists a number of program outputs, including: monitoring infrastructure (permanent sample plots); sampling techniques; long-term trend data; database development and maintenance; and expertise and knowledge transfer. Further, the Program Plan lists several types of reports to be produced by the PWPMP, including annual reports, technical reports, five-year reports and long-term species group assessment reports. The Program Plan also includes an implementation schedule outlining the activities of PWPMP staff, as well as monitoring activities to be undertaken by third parties and funded by MNR.

The document contains a section regarding the maintenance of the Program Plan, stating that an annual review of the program, as required in Condition 30(b) of the Declaration Order MNR-71/2, "will evaluate the progress of program activities in achieving targets and maintaining the program's direction." MNR also states that it will seek public input during its annual reviews.

Implications of the Decision

The PWPMP was created in order to provide long-term trend data on representative terrestrial vertebrate species. Under Declaration Order MNR-71, the ministry is required in the Program Plan to outline priorities, representative species to be monitored, and proposed activities and schedules for the program. Also, the Declaration Order directs that the Program "shall collect information to support testing the effectiveness of Guides." However, the 2010 Program Plan does not include all its required components intended to provide transparency, clarity, and accountability and it is unclear whether the PWPMP is meeting its objectives. The failure to undertake required monitoring has environmentally significant implications on a large scale across Ontario.

Inadequate Provision of Long-Term Provincial Trend Data

The Program Plan text is unclear on whether the ministry is in fact doing any dedicated province-wide monitoring under this program. It does not appear that MNR has any long-term data collection planned in the five-year term of the Program Plan outside of that undertaken with outside partners or under other ministry programs. Rather than information being collected under this PWPMP, it appears that the ministry is using the results from other sources, such as the Breeding Birds Survey and migration monitoring surveys (through partnership with Bird Studies Canada and the federal Canadian Wildlife Service) or MNR's harvest monitoring programs (e.g., trapper surveys regarding fur-bearing animals) to meet the requirements of its Class EA conditions.

The monitoring undertaken does not meet the scale or objectives of the program. In its 2006 State of the Forest report, MNR stated that 10 years of data are typically required to understand natural wildlife population variability, but that "only a few wildlife population surveys have been ongoing for this length of time in Ontario" and that limited long-term data is available. The report further stated that: "[f]or many species and/or locations in Ontario there is still not enough data for appropriate analysis and assessment. The province still lacks monitoring data for amphibians (other than one species of salamander), reptiles, and medium-sized mammals." The 2010 Program Plan does not address these data gaps.

The ministry outlines deficiencies in its current surveillance monitoring efforts, providing further acknowledgement that the program is not collecting necessary data. For birds, the Program Plan states that “existing surveys will be useful for calibration and validation of an AOU-wide sampling program but none of them was designed to provide information with which to evaluate the results of management decisions (forest or otherwise).” For mammals, the ministry notes that its existing surveys for moose, white-tailed deer, and species harvested for fur were designed to inform harvest management decisions and not to provide information relative to forest management activities, but that data collected through those surveys could support surveillance monitoring efforts. However, many mammal species would be excluded from these harvest surveys, such as mammals that are neither hunted nor harvested for fur, such as species of shrew, mouse, vole, lemmings, chipmunk or porcupine. MNR notes that only one surveillance monitoring program, the Marsh Monitoring Program (co-ordinated by Bird Studies Canada and aimed at both birds and amphibians) is currently active in the AOU, but only provides statistically reliable surveillance for seven amphibian species in Great Lakes coastal marshes. No surveillance monitoring for reptiles in the AOU is undertaken or planned.

MNR states in the Program Plan that it will evaluate broad-scale habitat supply patterns for wildlife using the ministry’s existing Forest Resources Inventory (FRI). However, the ministry has previously outlined concerns with using the FRI to estimate habitat: wildlife-habitat relationships are poorly understood and attributes available in the FRI may not account for important effects of local habitat on population dynamics. MNR has further noted that “interpreted FRI data will be inadequate for evaluating interaction effects of forest management activities on habitat and thus wildlife populations.” Additionally, recent studies assessing the accuracy of habitat data have demonstrated that there may be low correspondence between the FRI (undertaken remotely by aerial survey) and data collected in the field. MNR researchers noted that, although the inaccuracies would vary by wildlife and tree species, “it is possible that current forest harvesting practices based on these data do not fulfill the intended goals for provision of wildlife habitat.” MNR scientists suggest new FRI data collection, currently underway, should be evaluated to confirm consistency between remote and field data.

Rather than collecting AOU-wide data, it appears most of the work under the PWPMP is in scoping, researching and planning new methods for monitoring; this seems to have been the case since the PWPMP’s inception. The ministry describes pilot projects it has undertaken, and other surveys and monitoring it is supporting; generally, these are site-specific or smaller in scale and would not necessarily be representative of the whole province.

The Program Plan does not report on observed trends from data collected under the PWPMP (with the exception of 26 bird species with declining populations – see below). The original intent for the data collected under this program was to inform forest management policy. However, it is not clear from the Program Plan how this process can or does happen: the Program Plan does not make clear how the data collected by MNR or third-party organizations has been used in forest management, or what impacts it has determined that forest management activities have had on wildlife populations in the AOU.

No List of Representative Species to be Monitored

The Declaration Order specifically requires the ministry to include the representative species it will monitor in its Program Plan. However, the 2010 Program Plan does not list species that the PWPMP has committed to monitor; instead, an 18-page appendix (Appendix II) outlines the species that the ministry could possibly monitor under the Program. The ministry states it will convene an expert workshop to help refine the list of species selected for monitoring.

The number of species the ministry and third-party organizations have been monitoring under the auspices of the PWPMP has been reduced since the program’s inception. In 1998, MNR scientists published a paper outlining a rationale and methodology for selecting species for inclusion in its monitoring program. The ministry then selected 92 species to monitor, ranging in forest habitat types, taxonomic groups, size, life histories and trophic levels. However, in its 2004 Program Plan, MNR identified 43 species that would be monitored through the PWPMP in an appendix, including 37 bird species, five mammal species and one amphibian species. In the 2004 Program Plan, MNR stated that

the number of species had been reduced due to “a large and expensive sample design to monitor” and that the updated list was “based on the successional stages and the habitat types and features listed in Condition 30, and on the ability to collect data with statistical confidence to determine trends in the time-series data.”

Of the 354 species listed in the 2010 Program Plan’s Appendix II as possible species to monitor, only 285 are identified as species occurring in the AOU (see Table 3). MNR explained at a meeting with the ECO that this was due to the fact that most of this information was from monitoring undertaken by third parties outside government; some of these organizations collect data on species outside of the AOU and this was included in this file. MNR has “reliable trend” data for 92 of the 285 AOU species (presumably referring to the species’ population status); however, these trends were not described (i.e., the table does not state whether the observed populations were increasing, declining, etc.).

Although there are 60 mammal species occurring in the AOU, only six mammals were included in Appendix II: five shrew species and the Virginia opossum, which does not occur in the AOU. When the ECO inquired why several species mentioned in the text of the Program Plan were excluded from this list (e.g., moose, white-tailed deer, marten, black bear, wolverines, caribou, etc.), MNR noted that since data on other mammals were collected through other program areas, they would not be examined through the PWPMP. However, programs designed to inform harvest allocation may not be representative of species’ population trends across the province (as they could be biased geographically or due to economic reasons, e.g., trapper surveys).

Appendix II includes 31 reptile species, 21 of which are noted as AOU species; however, the table shows there are no reliable trends for any of these reptile species. There are 25 amphibian species included in Appendix II, 19 of which are noted as AOU species. Although there are reliable trends for seven of these species, the data was taken from Bird Studies Canada’s Marsh Monitoring Program, which operates in Great Lakes Marshes and is not necessarily representative of the entire AOU.

Table 3. Data availability by species group, as reported by MNR in Appendix II, Provincial Wildlife Population Monitoring Program Plan, Version 2.0. (AOU: Area of the Undertaking of commercial timber harvesting operations in Ontario.)

Taxonomic group	Number of Species Listed in Appendix II and Identified as Found in the AOU*			
	Total number of species	Reliable trend data available**	Included in 2004 Provincial Wildlife Population Monitoring Program	Present surveys in the AOU
Amphibians	19	7	1	0
Reptiles	21	0	0	0
Mammals	5	0	0	0
Birds	240	85	37	4
Total	285	92	38	4

*The species MNR included in this list are not necessarily representative of the total number of species present within the AOU; for example, 60 mammal species reside in the AOU.

** Survey areas include: AOU, Great Lakes Marshes, Central Canada and/or Southern Ontario

It is clear that no consistent list of species has been monitored over the time this program has been in place. There is very little reliable long-term trend information overall: no reliable data are available for the majority (70 per cent) of species. For species for which data are available, few data are in fact collected in

the AOU, with the exception of four bird species. Further, it does not appear that the ministry or other third-party organizations are collecting any data on reptile species found in the AOU under any program.

Although there are 26 bird species included in Appendix I of the Program Plan as having “large declines” either Ontario-wide or in part of Ontario’s forests, no mention was made of how the Program is addressing this concern. Only six of the species listed in Appendix I have been yet identified as species at risk under the *Endangered Species Act, 2007 (ESA)*. The Program Plan notes that “targeted monitoring” species and activities will be determined in years 2012, 2013 and 2014; therefore, it could mean that no targeted monitoring for these species with known declines has yet been planned.

Possible Introduction of a Multiple Species Inventory and Monitoring Program

In the 2010 Program Plan, MNR describes a new methodology for monitoring it is currently examining – Multiple Species Inventory and Monitoring (MSIM), developed by the United States Fish and Wildlife Service. MNR states that it is “currently assessing the feasibility of basing much of the field data collection portion of this Program Plan on the MSIM approach.” The system would determine presence or absence of a number of particular species at once, at defined grid points that would correspond with federal National Forest Inventory plots. MNR began conducting an MSIM trial in 2006 but the ministry states that “[a] decision about the feasibility of full-scale implementation for at least a core of protocols will be made once the broad-scale test has been evaluated.” The implementation schedule in the Program Plan notes that the decision whether or not to implement the method is scheduled for 2012.

MNR also describes its intent to move towards a risk-based system to set further priorities for monitoring. The ministry states that “an objective evaluation of risk... is needed to guide the identification of species, species guilds, habitat units or structural features in decline or increase.” However, MNR’s limited monitoring thus far may not have provided the data to reliably identify higher- or lower- risk species. The ministry states that it will convene one or more panels of specialists to assist with the development of a formal risk assessment process, particularly for species whose habitat needs may not be fully captured by the direction given in forest management guides.

Mandatory Reports are Late or Non-Existent

The Program Plan includes an implementation schedule for five fiscal years, ending in 2014. The implementation schedule lists reporting activities under the PWPMP. The scheduled reports included Annual Reports of Wildlife Assessment, and three Status Reports – Birds of Ontario Status Reports (due 2010), Mammals of Ontario Status Report (due 2011), and Amphibians and Reptiles of Ontario Status Report (due 2011).

The ECO requested the last three years of the PWPMP’s Annual Reports referred to in the Program Plan; these reports are intended to provide an overview of the progress of program activities in achieving targets and maintaining the program’s direction. In response, the ECO received a one-page spreadsheet outlining the activities of the PWPMP. Under the column “What are the results to date (status & long-term population trends for specific wildlife species)?” in 2008/2009 MNR stated “Nothing to Report;” under the same column in 2010/2011 the ministry stated that “Annual variation in population processes for many species and the absence of a comprehensive provincial multi-species monitoring program with sufficient sampling intensity and geographic coverage preclude making reliable statements about individual species status or trends from existing annual data.”

The ECO also requested the Status Reports scheduled for completion in 2010 and 2011 in the Program Plan. The ministry stated that the Birds of Ontario Status Report was a two-part report, consisting of (1) an academic journal article published in the *Forestry Chronicle* in 2009 (Population Trend Status of Ontario’s Forest Birds), authored by scientists from Environment Canada, Bird Studies Canada and MNR; and (2) a four-page section in State of Ontario’s Biodiversity report, completed in 2010 by the third-party Ontario Biodiversity Council. The ministry further stated that the reports for mammals and amphibians/reptiles were still in preparation, noting that the year 2011 in the Program Plan indicated the

ministry's 2011/12 fiscal year; MNR noted that these reports would be available in April 2012. However, by June 2012, these reports remained unavailable.

Public Participation & EBR Process

MNR published Version 2.0 of the Provincial Wildlife Population Monitoring Program Plan on its website on June 25, 2010, without undertaking public consultation as required under the *Environmental Bill of Rights, 1993 (EBR)*. When the ECO challenged MNR on its failure to post the Program Plan as a policy proposal notice on the Environmental Registry, the ministry informed the ECO that it planned to post the Program Plan on the Registry for public comment in fall 2011 as part of a program review.

However, when MNR posted the Program Plan on the Registry in December 2011, the ministry posted it inappropriately as an information notice (#011-4230). MNR advised the ECO that "[t]he ministry's interpretation is that the Provincial Wildlife Population Monitoring Program Plan Version 2.0 is not a policy, act, regulation or instrument that requires posting on the Environmental Registry." Further, MNR stated that the ministry had, as promised, provided the public with the opportunity to provide input through a 30-day comment period on the information notice.

The ECO unequivocally disagrees with MNR's assertion that the Program Plan is not a policy that requires posting on the Registry. There is nothing in the *EBR* that exempts the Program Plan from being posted. The *EBR* definition of "policy" is general and explicitly includes "plans;" the Program Plan is named as such and proposes certain steps be taken to accomplish a specific end. Further, as described above, the Program Plan and its implementation could have significant environmental effects at a provincial scale. The ECO maintains that MNR's failure to post this proposal as a regular notice, as well as the consequent failure to post a notice of its decision and explain the effects of public participation on its decision, is a serious act of non-compliance with the *EBR*.

The ECO also points out that the information notice did not provide enough information for any members of the public to provide meaningful comment. The ECO believes that public participation and scrutiny of this program is particularly warranted because MOE has not been vigilant in its monitoring of MNR's compliance with its responsibilities under its Declaration Order. The ministry reported to the ECO that it did not receive any public comment on the information notice regarding this policy.

For further information, please see Chapter 2.3 of Part 1 of the ECO's 2011/2012 Annual Report.

SEV

The ECO requested the Statement of Environmental Values (SEV) consideration document for this policy decision, but MNR did not provide one. Therefore, it is unclear whether the ministry considered its SEV for its decision to move forward with the Program Plan.

Other Information

In May 2010, MNR posted an information notice outlining proposed changes to the Declaration Order on the Environmental Registry (#010-9448 - Amendment of the Declaration Orders regarding the Ministry of Natural Resources' (MNR) Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario (MNR-71 and MNR-74)). The proposed amendments suggest a further movement from a "featured species" approach to a more inclusive approach based on forest age class and type, for example, by removing reference to any particular species (moose, deer, pileated woodpecker, marten) to just species that benefit from forests managed for the purposes of maintaining early or late successional stages. The proposed changes were submitted by MNR for MOE approval in fall 2011.

ECO Comment

The ECO has observed a deterioration of the expectations for this program. The PWPMP is not being carried out in a way that tests its original central hypothesis: that commercial timber harvesting activity is

not having an impact on the province's forest-dwelling species. In recent years, it has become clear that the program has failed to achieve its own objective: to monitor and assess the status and trends of forest wildlife populations and their habitats, in order to inform MNR policy and management decisions. Therefore, at this time, the PWPMP cannot provide Ontarians any assurance that forest management activities are not having a negative impact on wildlife.

The PWPMP is a crucially important part of a sustainable forestry system and MNR has a responsibility to carry out the program effectively. The Timber Class EA created a system of "checks and balances" in forest management – the PWPMP is an essential "check" that is not being completed. The failure to ground-truth impacts of management actions on wildlife species at the provincial scale conflicts with the spirit of the *CFSA* and the intent of the original Timber Class EA. MOE maintains some responsibility for examining MNR's compliance, as the ministry approving the Timber Class EA; however, as the ECO warned in 2003, MOE has abdicated its responsibility for oversight by removing the requirement for MNR to seek re-approval for its Class EA.

The ECO is disappointed by the ministry's failure to include a committed list of species to monitor under the PWPMP. Perplexingly, the ministry's list of potential species to include under the program (Appendix II) excludes species that were intended to be the crux of the original program – moose, white-tailed deer and pine marten. At the same time, it includes 69 species that don't even occur in the AOU and are clearly outside of the mandate of the PWPMP. More problematically, since MNR has not used a consistent set of species to monitor since the program began in the mid-90s, it still does not have the long-term data necessary to appropriately assess and analyze wildlife population trends at the AOU level.

Although the ministry can notionally claim that it is meeting the requirements of its Declaration Order condition related to wildlife population monitoring, its monitoring efforts do not come remotely close to fulfilling what was originally intended. Third-party collected data, concentrated in the southern parts of the province and extreme south of only some parts of the AOU, have limited relevance and do not make up the province-wide, long-term system originally envisioned. MNR's own staff have previously noted that data obtained from some third party activities was too inconsistent or too sparse to meet its obligations. Further, the data that is being touted as part of the PWPMP has not been designed or collected for its intended purpose. The PWPMP is not collecting enough information to determine long-term trends of Ontario's forest-dwelling terrestrial species within the AOU. The result is that available information is inadequate to provide for planning forestry operations, or to inform any policy change as a result of provincial-scale species declines.

Without the proper functioning of the PWPMP, Ontario is blind to the impact forestry is having provincially on wildlife species. Further, the failure to carry out this monitoring program ultimately means that Ontarians will not have the ability to anticipate change or adapt in time to avoid negative impacts or collapse of wildlife populations or ecological systems. Long-term monitoring data would have a number of uses to the ministry, ranging from independent population data for its wildlife management and harvest allocations, biodiversity and state of the resource reporting, meeting responsibilities under the Convention for Biological Diversity and climate change monitoring. Long-term data sets within a strong methodological framework would have potential as powerful evaluation tools for the ministry, as described in Chapter 6.4 of Part 2 of this year's Annual Report. Such data sets could help validate sustainable forestry practices and also pinpoint areas for improvement. However, rather than designing the monitoring program with a forestry focus and allowing other programs to share the data, the ministry has been cobbling together information gathered for non-forestry purposes in order to meet, on paper, the terms of its Declaration Order.

MNR has plans to move forward with a new multi-species monitoring system; however, planning for its implementation has been years in the making (at least since 2006) and the PWPMP has not yet received approval to move ahead with the system at a provincial level. The ECO urges MNR to move swiftly to implement a scientifically defensible, long-term, province-wide monitoring program for its forest species, as originally intended by MNR's Timber Class EA. Further, the ECO urges MNR to explain the new monitoring system to the public and provide opportunity for public comment through the regular policy proposal process under the *EBR*.

The ECO believes that the root cause of PWPMP's failure is a chronic lack of funding and capacity at the ministry. Due to previous cuts, the PWPMP has never been implemented as originally planned and cannot meet its objectives. As the PWPMP is the only monitoring program legally required of MNR and is still deteriorating, the ECO has grave concerns about the vulnerability of this and other monitoring programs in the midst of fiscal austerity. The ECO warns that the effective functioning of this program is an obligation not only under multiple laws, but is also a responsibility to future generations. We should not lose touch with the health of our forests. It is in the best interests of all parties – the government, forest industry and the public – to have a clear understanding of how forest management activities are, or are not, negatively affecting wildlife populations.

Review of Posted Decision:

1.18 A Director's Order for Preston Electrical & Mechanical Ltd. to File a Certified Closure Plan to Rehabilitate the Ross Mine Site

Decision Information

Registry Number: 011-2790
Proposal Posted: March 9, 2011
Decision Posted: April 21, 2011

Comment Period: 30 days
Number of Comments: 1
Decision Implemented: April 12, 2011

Keywords: Closure Plan; mining; rehabilitation; Ross Mine

Description

In April 2011, the Ministry of Northern Development and Mines (MNDM) – then called the Ministry of Northern Development, Mines and Forestry – issued a Director's Order to Preston Electrical and Mechanical Ltd. (Preston E&M) to file a certified Mine Closure Plan to rehabilitate mine hazards at the Ross Mine site in Holtyre.

Background

The Ross Mine site is a historic gold, silver and copper mine that opened in 1935 in the small town of Holtyre, southeast of Matheson, Ontario. Preston E&M purchased the mine in June 1989. Up to that time, the Ross Mine was the second oldest continuously running gold mine in Canada. However, extraction at the mine was suspended in November 1989 when an associate company's mill, which was slated to process the Ross Mine's ore, had difficulties obtaining the necessary approvals from the Ministry of the Environment (MOE). During this period of suspension, a "care and maintenance" program was to be implemented to keep the Ross Mine pumped dry. Yet, within three weeks of production being halted, there was concern that the mine might flood because of electricity being cut by Ontario Hydro since Preston E&M had fallen into arrears; MOE officials were worried that the suspension of electricity and the consequent disabling of pumps would lead to the flooding of the mine and the submergence and leakage of transformers believed to contain polychlorinated biphenyls (PCBs). To address these concerns, MOE prepared an Order to Preston E&M to remove three transformers. The Order was never issued, however, because payments were made and the electricity was maintained.

The mine reopened in June 1990. However, production ceased for a second and final time in September 1990 when Ontario Hydro disconnected power to the mine due to arrears. Because the pumps were disabled when the electricity was disconnected, the mine began to flood through the natural influx of groundwater. In January 1991, in response to the threat of eventual submergence of the transformers in

the mine, and evidence the transformers contained PCBs that might escape and contaminate local wells and groundwater, MOE issued an Order to Preston E&M requiring that: the mine's power supply be re-established; the mine be pumped out; and the transformers be removed and placed in storage. Preston E&M appealed this Order to the then-Ontario Environmental Appeal Board (the "Board"). The Board denied the appeal, but stated that "the restricted and contained nature of the mine workings together with the lengthy period required for corrosion to result in leakage of the transformers, leads the Board to believe it reasonable to delay implementation of the Director's order for several years." The Order's deadline to remove the transformers was therefore postponed to September 1, 1999. However, Preston E&M never complied with the Order, and as of January 2012 the underground mine workings have not been pumped out and the PCBs are still stored underground. Likewise, while the Order also required Preston E&M to sample the mine water for PCBs annually until the terms of the Order were implemented, MOE charged the company and its owner in 1999 with failing to comply with this requirement.

A Closure Plan for the Ross Mine

MOE is not the only provincial ministry that has had issues with the Ross Mine site. MNDM requires that the owner of a temporarily suspended mine file a Closure Plan (a plan to rehabilitate a mine site or hazard in accordance with the *Mining Act*) and provide financial assurance (e.g., cash, a letter of credit from a bank, or an insurer's bond) to implement the Closure Plan. In December 1999, MNDM issued a notice to Preston E&M to file a Closure Plan for the Ross Mine site. When Preston E&M failed to respond to this request, MNDM issued a notice in March 2000 declaring the Ross Mine abandoned to allow the Crown entry to implement rehabilitation (see Environmental Registry #ID00E1001). Preston E&M appealed this decision to the Mining Lands Commissioner, but the appeal was eventually dismissed. During alternate dispute resolution, MNDM agreed to withdraw the declaration of abandonment if Preston E&M filed a certified Closure Plan in accordance with the *Mining Act*. The company agreed and MNDM withdrew its declaration of abandonment. According to MNDM, Preston E&M then submitted a Closure Plan, but it had several technical deficiencies and lacked financial assurance. Although MNDM worked with the company for over a year, the ministry never received an acceptable and complete Closure Plan.

After nearly a decade of ongoing compliance work, in April 2010, MNDM sent a letter to Preston E&M (and the mortgage holder for the Ross Mine site) requesting a schedule for the submission of a certified Closure Plan, including financial assurance for all mine hazards on the site. The letter noted that despite repeated efforts to work with the two companies, the ministry had not yet received an acceptable certified Closure Plan, nor had there been any efforts on the part of the proponents to progressively rehabilitate the site. MNDM pointed out that mine hazards on the site "may be having an impact on public health, safety and the environment."

When Preston E&M again failed to submit a Closure Plan by the appointed deadline, in March 2011, MNDM posted a notice on the Registry (#011-2790) proposing to issue a Director's Order to Preston E&M to file a certified Closure Plan to rehabilitate the Ross Mine site. In April 2011, MNDM posted a Registry notice indicating that MNDM had decided to issue the Order and was requiring the company to file a Closure Plan by October 12, 2011. The ministry indicated that the rehabilitation work would include: the removal of all buildings, fuel tanks, facilities, infrastructure and chemicals; and the rehabilitation and stabilization of all underground openings to surface, tailings, waste rock and waste disposal sites.

After the Ross Mine property was sold to another company, Eastway International ("Eastway") in July 2011, MNDM granted an extension to Preston E&M to file a Closure Plan by April 12, 2012. In December 2011, MNDM also issued a Director's Order to Eastway to file a certified Closure Plan for the Ross Mine site by April 13, 2012 (Registry #011-5031). According to MNDM, the two companies have indicated that they are working together, and consultants hired by Eastway have been gathering information and background data at the Ross Mine site to prepare the Closure Plan.

On April 13, 2012, MNDM responded to requests from Preston E&M and Eastway, who apparently had to change consultants mid-stream, and granted the companies an extension to file a Closure Plan by September 30, 2012.

Implications of the Decision

Under Director's Order #2011001, Preston E&M was required to file a certified Closure Plan by April 12, 2012 to rehabilitate all mine hazards on the property in accordance with the prescribed standards of the *Mining Act*, O. Reg. 240/00 – Mine Development and Closure, made under the Act, and the Mine Rehabilitation Code of Ontario. According to the Director's Order, mine hazards on the property include: power lines and substations, transformers and PCBs; tailings and dams; open pits; underground mine workings; chemicals; and contaminated soils. This Order should compel Preston E&M, in co-operation with Eastway, to file a Closure Plan that outlines how the site's hazards will be rehabilitated to provincial standards. Under section 147(5) of the *Mining Act*, failure to comply with this Order constitutes an offence subject to a maximum fine of \$30,000 for each day the offence continues and/or imprisonment for up to two years.

Public Participation & EBR Process

MNDM received one comment on this proposal during its 30-day comment period. The sole commenter expressed interest, should Preston E&M fail to comply with the Order, in submitting a Closure Plan for the Ross Mine site and performing the necessary rehabilitation work in exchange for all property and mineral rights. In its decision notice, MNDM responded to this comment by noting that the Director's Order involves patented lands and directing the public to contact the proponent regarding property rights.

SEV

In June 2008, the Ontario Divisional Court ruled that ministries prescribed under the *Environmental Bill of Rights, 1993 (EBR)*, must consider their Statements of Environmental Values (SEVs) when making environmentally significant decisions on instruments (see pages 143-145 of the ECO's 2008/2009 Annual Report). Leave to appeal the Divisional Court's decision was denied by the Ontario Court of Appeal. In July 2008, the ECO wrote to four affected ministries – MNDM, MOE, the Ministry of Municipal Affairs and Housing, and the Ministry of Natural Resources (MNR) – outlining the implications of the court decision and noting that in order for the ECO to analyze ministry compliance with SEVs, the ECO must be provided with ministry SEV consideration documents for instrument decisions. It is the ECO's understanding that, prior to this ruling, ministries that issue environmentally significant instruments – as outlined in O. Reg. 681/94 under the *EBR* – generally did not prepare SEV consideration documents when making these decisions. The ECO therefore requested that these ministries: review how they would respond to the Divisional Court decision; and begin providing the ECO with SEV consideration documents for instrument decisions. In August 2011, three years after the Divisional Court decision, the ECO wrote to the prescribed ministries again, notifying them that the ECO would begin periodically requesting SEV consideration documents for ministry decisions on select instruments.

In December 2011, the ECO requested from MNDM an SEV consideration document for its decision to issue Preston E&M a Director's Order to file a Closure Plan for Ross Mine. MNDM fulfilled this request the very same day. The SEV consideration document, which is dated April 20, 2011 (the day before the decision was posted to the Registry), notes that if the proponent files a certified Closure Plan with financial assurance as desired, this will provide for and ensure the rehabilitation of existing mine hazards. MNDM noted that the Closure Plan will detail suitable rehabilitation activities that will minimize the impact of the site's mine hazards on public health, safety and the environment. MNDM confirmed that the Closure Plan will be reviewed by a multi-ministry review panel and certified by qualified professionals, as contemplated in MNDM's SEV. To assess this instrument's achievement of the provisions and commitments in the ministry's SEV, MNDM stated that it will monitor compliance with the Order's deadline dates and take appropriate action as required.

ECO Comment

The Ontario government has a long history of trying to get Preston E&M to comply with Director's Orders. As early as 1991, MOE ordered the company to pump out the mine and remove PCB-containing transformers. Over twenty years later, this Order has still not been fulfilled and the transformers, PCBs

and other mine features remain hazards at the site. Likewise, MNDM has been trying to obtain a certified Closure Plan with financial assurance from Preston E&M for over a decade. The fact that MOE and MNDM's Orders have been allowed to be ignored for so long without penalty undermines the value of Directors' Orders and encourages contempt for provincial authority.

The ECO acknowledges MNDM's struggle to nail down a Closure Plan for the Ross Mine site and concurs with the ministry's decision to issue another Order to Preston E&M. However, the ECO is disappointed, albeit unsurprised, that the Order has failed yet again to compel Preston E&M to file a certified Closure Plan by the April 13, 2012 deadline. Given the government's exhausting and unproductive enforcement history with this company and site, and the ongoing threat of environmental harm, if Preston E&M fails to produce a satisfactory Closure Plan by the extended deadline of September 30, 2012, the ECO urges MNDM to consider using more aggressive tools under the *Mining Act*, including the laying of charges, to ensure the site's hazards will be rehabilitated to provincial standards.

The ECO is pleased that MNDM was able to promptly provide an SEV consideration document for this decision, demonstrating its compliance with the *EBR* in accordance with the Divisional Court's 2008 decision.

Review of Posted Decision:

1.19 The Ministry of Transportation's Sustainability Strategy

Decision Information

Registry Number: 010-7952
Proposal Posted: October 6, 2009
Decision Posted: March 1, 2011

Comment Period: 45 days
Number of Comments: 4
Decision Implemented: February 2011

Keywords: aggregates; environmental assessments; highways; Ministry of Transportation; sustainability; transit; transportation

Description

Overview

In February 2011, the Ministry of Transportation (MTO) released its sustainability strategy, entitled Sustainability inSight: An innovative strategy for Ontario's Ministry of Transportation (the "Sustainability Strategy" or "Strategy"). The purpose of the Strategy is to incorporate sustainability into the ministry's internal business practices, as well as the policies and programs that affect Ontario's transportation system. The Strategy identifies seven goals for more sustainable transportation and outlines a process for how the ministry intends to achieve these goals.

Background

The transportation sector can negatively affect the environment in many ways. Road transportation represents a major contributor to greenhouse gas (GHG) emissions and air pollution; poor transportation and land use planning contributes to urban sprawl and the loss of wildlife habitat and agricultural lands; highways and roads can fragment ecosystems; salt, oil, and other road-related pollutants can contaminate streams; and the construction of roads and highways involves the consumption of enormous amounts of sand and gravel.

As the ministry responsible for the planning, design, construction, operation and maintenance of Ontario's transportation system, MTO's mandate covers a number of environmentally significant activities. These include: establishing and maintaining the provincial highway system; purchasing and using aggregates and other construction materials; distributing salt and sand on weather-affected roadways; managing stormwater on provincial highways and roads; reducing the transportation sector's GHG emissions and impacts on biodiversity and wildlife habitat; and setting the strategy and policy framework for Metrolinx (an agency of the Government of Ontario created to improve the co-ordination and integration of all modes of transportation in the Greater Toronto and Hamilton Area). Given these responsibilities, the need for MTO to consider the environment and the sustainability of development is extremely important.

Sustainability inSight: An Innovative Strategy for Ontario's Ministry of Transportation

Recognizing the need for a strategic, co-ordinated and consistent approach to sustainability, in 2008 MTO began a ministry-wide, collaborative process to develop a sustainability strategy. This process was led by the newly created Sustainable Transportation Policy Office. The resulting Strategy was created in partnership with MTO's Sustainability Enabler Network, which includes representatives from every MTO region and division and involved consultation with staff across the ministry, other Ontario government ministries and the public. MTO posted the finalized Sustainability Strategy on the Environmental Registry on March 1, 2011.

The Sustainability Strategy explains that sustainability is "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs," and involves the economy, society and the environment in a dynamic relationship. The two stated purposes of the Sustainability Strategy are:

- To ingrain sustainability into the internal business practices and behaviour of the ministry; and
- To influence MTO's policies and programs that affect the external provincial transportation system.

In developing its approach to the Sustainability Strategy, MTO arrived at four guiding principles (long-term relevance, broad reach, consistency and practicality, and sensitivity to context), which in turn shaped the development of seven strategic goals:

1. Increase accessibility (the ability to reach goods, services, activities and destinations) by improving mobility (the movement of transportation modes), the choice of transportation modes and safety
2. Integrate transportation and land use planning to reflect sustainability
3. Consistently apply a context-sensitive approach in MTO's work
4. Optimize infrastructure design, capacity and investment (e.g., by using transportation demand management and intelligent transportation systems)
5. Demonstrate good stewardship
6. Engage MTO staff expertise to promote innovation
7. Drive a cultural shift towards sustainability

Under each of these strategic goals, the Sustainability Strategy identifies many "areas of focus." Examples include:

- identifying ways to eliminate the need for some trips by focusing on moving ideas and services instead of people and goods;
- establishing a multimodal transportation network, with effective intermodal connections to reduce the reliance on any one transportation mode;
- encouraging integrated planning between ministries, across levels of government and with other organizations (e.g., in reviewing municipal Official Plans or conducting environmental assessments);

- bringing a stronger sustainability perspective to the transportation planning process to balance business and passenger transportation needs, manage sprawl and congestion, protect natural and agricultural lands, and promote more active forms of transportation;
- developing a more inclusive approach to accounting methodology to evaluate long-term social, environmental and economic costs and benefits;
- managing transportation demand as well as transportation supply (e.g., reducing the need to travel by offering alternatives, such as online services or incentives like faster travel times for more sustainable forms of transportation);
- recognizing that many natural resources are finite and shared, and making every effort to conserve, reuse and recycle them as much as possible;
- minimizing disruptions to the natural environment or to historic or cultural features;
- responding to climate change by reducing GHG emissions from the transportation sector and preparing for the potential impacts of climate change;
- supporting the Ontario Public Service (OPS) Green Transformation, an initiative to reduce the environmental footprint of the provincial government and foster a green organizational culture; and
- using MTO's significant purchasing power to influence the availability of sustainable goods and services.

The Sustainability Strategy directs that the seven strategic goals will be reached by completing specific actions, which will be articulated in a yet-to-be-developed Sustainability Implementation Plan. Each action will have a target completion date and will specify the MTO branch(es) responsible for delivering on it. Sustainability Implementation Plans will be updated every three years and each new plan will introduce new actions, report on earlier actions and indicate MTO's progression towards the seven goals. To help make and keep sustainability an everyday part of MTO's work, the ministry plans to: integrate the three-year sustainability implementation cycle into MTO's regular business planning and budgeting cycle; and utilize change management practices to facilitate MTO's transition to a "model sustainable organization."

To meet its sustainability objectives, MTO recognizes that it must examine both its internal and external operations. The Sustainability Strategy explains that integrating sustainability into MTO's internal business means incorporating the concept into eight business practices: business planning; standards and practices; environmental assessments; procurement and third-party contracts; employee education and awareness raising; participation in the OPS Green Transformation; employee recognition; and MTO's Statement of Environmental Values (SEV). In terms of its external operations, MTO has identified several mechanisms through which it can integrate sustainability into the provincial transportation system: legislation and regulations (e.g., mandating the use of speed limiters); policies and programs; economic instruments (e.g., grant programs that promote alternative transportation modes); infrastructure (e.g., adding high occupancy vehicle lanes to highways); public education; and MTO's partners and stakeholders.

The Sustainability Strategy emphasizes that every level of the ministry has a role to play in promoting sustainability and achieving the Strategy's goals: senior managers are the Strategy's champions; directors are responsible and accountable for delivering individual sustainability action items; members of the Sustainability Enablers Network advise on Strategy implementation; working groups and project teams support the development and implementation of action items; members of the Sustainable Transportation Policy Office team lead the implementation of the Strategy and track and report on progress; and all MTO staff are to use the Strategy as a tool in problem solving and decision making.

Implications of the Decision

The ECO's past Annual Reports have identified many environmental challenges with Ontario's transportation sector, including:

- The need to integrate land use planning and transportation (see pages 28-35 of the ECO's 2006/2007 Annual Report);

- The bias of MTO's Class Environmental Assessment for Provincial Transportation Facilities ("Class EA") – the key approval process for planning, designing and building new highways, and for expanding or altering existing provincial roadways – toward roads and highways rather than transit, rail and demand management (see pages 112-116 of the ECO's 2004/2005 Annual Report), and the tendency for EA processes to lead inexorably to the approval of projects (see Part 2.2 of the ECO's 2007/2008 Annual Report);
- The ecological impacts of roads, specifically animal strikes, the contamination of streams with road-related pollutants, the spread of invasive non-native species, and the fragmentation, loss and disruption of wildlife habitat (see pages 136-139 of the ECO's 2006/2007 Annual Report and Part 8.1 of the ECO's 2007/2008 Annual Report); and
- The enormous amounts of aggregates used to build and maintain Ontario's transportation infrastructure (see pages 29-35 of the ECO's 2002/2003 Annual Report).

The Sustainability Strategy comprehensively identifies how Ontario's transportation sector can negatively affect the environment. The Strategy does not itemize every potential environmental issue – or provide much background and guidance on how environmental impacts can be mitigated. But many of the ECO's concerns appear to fall under the numerous and wide-ranging "areas of focus" listed throughout the Strategy, suggesting that these issues will be addressed by action items in Sustainability Implementation Plans. For example, although biodiversity loss and ecosystem fragmentation are not mentioned specifically in the Strategy, any intentions by MTO to address them could be captured by the Strategy's plans to: minimize disruptions to the natural environment; manage sprawl; and protect natural lands. Likewise, while road-salt management and the impacts of roads on species at risk are given little discussion in the Strategy, MTO's stated intent to focus on minimizing disruptions to the natural environment could manifest in actions that address these issues.

On the other hand, because it is difficult to glean from the Strategy's goals and areas of focus exactly what action items will be specified in the first Sustainability Implementation Plan, it is possible that some environmental issues (e.g., the spread of invasive non-native species, ecosystem fragmentation) may fall between the cracks and be neglected. So while on the face of it the Strategy appears to set MTO on a commendable path towards sustainability, the Strategy's adequacy as a guidance framework cannot be judged until the first Sustainability Implementation Plan is released.

MTO can readily address some of the Strategy's goals (e.g., applying a context-sensitive approach in MTO's work; engaging staff expertise to promote innovation; driving a cultural shift towards sustainability) by emphasizing sustainability in the ministry's business practices, policies, programs, and public education. Other goals, however, such as demonstrating good stewardship (which includes minimizing disruptions to the natural environment) will require more substantial changes to MTO's practices and procedures. Specifically, MTO's Class EA processes for highways and transit will need to be transformed into effective tools for environmental protection, public participation and sustainability, rather than mere approval processes.

Furthermore, multi-agency collaboration will be needed to achieve other goals (e.g., increasing accessibility; integrating transportation and land use planning to reflect sustainability). A significant breakthrough would be MTO support for the reform of planning policies and legislation (e.g., the Provincial Policy Statement, 2005 (PPS)) outside MTO's authority that currently allow transportation infrastructure to destroy and fragment wetlands and other important natural areas.

Some government strategies and plans have vague objectives and no clear framework for reaching them, leaving one with little assurance that much will be accomplished. By contrast, the Sustainability Strategy's clear process for achieving high-level strategic goals increases public confidence that progress will be made; deadline-specific action items will be detailed in Sustainability Implementation Plans and implemented by MTO working groups and project teams, with progress towards the Strategy's goals reviewed and publicly reported on a three-year cycle.

Public Participation & EBR Process

In October 2009, MTO posted a policy proposal notice on the Environmental Registry soliciting public input on the development of a sustainability strategy. Although the notice did not include a draft of the Strategy itself, to guide public feedback a link was provided to a seven-page overview of the Sustainability Strategy. The overview described: why sustainability matters to MTO; MTO's approach to sustainability; the Strategy's two purposes; MTO's seven strategic goals to support sustainability; and the ministry's process for achieving the Strategy's goals.

During the 45-day comment period, MTO received four comments. The comments were generally supportive of the Sustainability Strategy and MTO's efforts to integrate sustainability into the ministry's policies, programs, day-to-day business practices and decision-making processes. Commenters, however, offered several suggestions to improve MTO's approach, including:

- Revising the Sustainability Strategy to make the relationship between transportation and public health (e.g., links to air pollution, GHG emissions and sedentary lifestyles) more explicit;
- Ensuring that transportation planning involves other ministries, environmental non-government organizations and agencies (e.g., the Ontario Municipal Board);
- Incorporating active transportation in the design of interchanges and highways, since these roads often pose barriers to pedestrians and cyclists;
- Recognizing that teleshopping and online learning can eliminate the need for some trips;
- Reducing the time between progress evaluations from three years to one – at least in the first decade of implementation – to attempt to avoid environmental catastrophes such as severe global warming and biodiversity loss; and
- Replacing the Sustainability Strategy's goals – which some commenters considered more as vague and intangible values than goals – with measurable goals (such as decreasing fossil fuel consumption by a specific amount) with target completion dates.

In its decision notice, MTO indicated how it had addressed the received comments. For example, MTO modified the Sustainability Strategy to: emphasize the association between sustainable transportation and healthy communities; and to reflect the need for MTO to work with other ministries and other stakeholders to achieve a more sustainable transportation system. In response to the concern that the Strategy's goals are vague and immeasurable, the ministry reiterated that the intent of its seven strategic goals is to provide a long-term vision for MTO, and that measurable targets will be identified through specific action items outlined in Sustainability Implementation Plans. Again, the ministry noted that MTO directors will be responsible and accountable for delivering individual sustainability action items, and progress will be publicly reported in the three-year Sustainability Implementation Plans.

SEV

In its SEV consideration note, MTO referenced specific goals and areas of focus in the Sustainability Strategy to explain how its decision addresses the natural environment, environmental concerns in decision making, integrated transportation planning, research and development, education and promotion, consultation, and the greening of internal operations.

Other Information

In 2005, MTO indicated that "it is timely to review the Class EA process. Several years later, in 2009, MTO initiated a review of its Class EA, considering input from staff, non-government organizations, regulatory agencies and the Environmental Commissioner's Annual Reports. As a result of this review, in April 2010, MTO posted an information notice on the Environmental Registry (#010-9138) publicizing proposed changes to its Class EA.

The information notice states that "proposed changes to [MTO's Class EA] document are not instruments, policies, acts or regulations under the *Environmental Bill of Rights, 1993* and are therefore not required to be posted for public comment." Although the ministry did invite interested persons to provide written

comments to MTO on the proposed amendments, the information notice serves simply to inform the public of MTO's intent to request approval from the Ministry of the Environment for the proposed changes to MTO's Class EA document. The ECO disagrees – and is disappointed – with MTO's stance that Class EA documents are not policies under the *EBR* and, therefore, are not required to be posted for public comment. The ECO points out that contrary to MTO's current position, in 1998 MTO posted its revised Class EA on the Environmental Registry as a policy proposal – #PE7E5607 – for public comment.

ECO Comment

In 2006, the ECO recommended that MTO take the lead with other ministries and collaborate on a strategy to reduce the environmental impact of Ontario's transportation sector. The ECO applauds MTO for developing the Sustainability Strategy and endeavouring to make the ministry and Ontario's transportation system more sustainable.

The Sustainability Strategy has the potential to be a powerful change agent, encouraging MTO staff to consider the environment and sustainability in their decision making. In particular, the ECO is gratified that the Strategy contains objectives to: integrate transportation and land use planning to reflect sustainability; manage sprawl and congestion; protect natural and agricultural lands; conserve, reuse and recycle natural resources; minimize disruptions to the natural environment; and use MTO's purchasing power to cultivate economic markets for sustainable products and services. While the strategy itself simply outlines MTO's strategic process, the ECO looks forward to reviewing the first Sustainability Implementation Plan, which the ECO expects will clearly articulate actions to reduce the environmental impacts of transportation in the province. The Strategy and its implementation process will achieve little in the way of sustainability if the Sustainability Implementation Plans lack explicit and meaningful actions and targets.

The ECO is disappointed, however, that the Strategy fails to explicitly prioritize public transit and rail travel over the use of automobiles. Although the Strategy mentions that MTO will identify ways to eliminate the need for some trips, provide access to various transportation options (so that people can choose the mode that best meets their needs), establish a multimodal transportation network to reduce reliance on any one transportation mode, and use transportation demand management to reduce reliance on single-occupant vehicles, it lacks the unequivocal prioritization of mass transit over the single occupant vehicle found in some other plans. The ECO has criticized MTO before for prioritizing highway construction over the building and maintenance of rail infrastructure (see page 173 of the Supplement to the ECO's 2006/2007 Annual Report). As the Sustainability Strategy will guide MTO's decision making and inform the action items articulated in Sustainability Implementation Plans, the Strategy should make the prioritization of public transit unambiguous.

The ECO notes that MTO's efforts to address sustainability will be inconsequential if the ministry (and the Ontario government at large) overlooks the failings of overarching processes and legislation to protect the environment from the impacts of transportation. In particular, the ECO believes that incorporating long-term environmental sustainability into MTO's Class EA is of utmost importance, given that (as the *de facto* planning and approval mechanism for Ontario's provincial highway network) the Class EA represents one of the most environmentally significant – and criticized – components of MTO's mandate. Likewise, MTO's intentions to minimize disruptions to the natural environment and to integrate transportation and land use planning will be undermined if the government continues to allow exemptions in land use policies (e.g., the PPS) and plans (e.g., the Greenbelt Plan and the Oak Ridges Moraine Conservation Plan) that allow transportation infrastructure in provincially significant wetlands and the plans' most stringently protected natural areas.

Nevertheless, the ECO reiterates that MTO's Sustainability Strategy is a commendable first step toward advancing the sustainability of the ministry and the province's transportation system. The Strategy's comprehensive goals and wide-ranging areas of focus lay out a framework under which any and all environmental concerns could be addressed. The ECO looks forward to seeing whether the first Sustainability Implementation Plan fully captures and articulates the enormous potential promised by the Strategy.

Review of Posted Decision:**1.20 An Update on Ontario's Transit-Supportive Guidelines****Decision Information**

Registry Number: 011-1329
Proposal Posted: January 14, 2011
Decision Posted: January 23, 2012

Comment Period: 60 days
Number of Comments: 19
Decision Implemented: January 23, 2012

Keywords: land use planning; Ministry of Transportation; official plans; road pricing; transit; transportation

DescriptionOverview

In January 2012, the Ministry of Transportation (MTO) updated and expanded the province's Transit-Supportive Guidelines (the "Guidelines"), which were first published in 1992. According to MTO, the updated Guidelines "provide municipalities with ideas, tools and best practices to consider transportation and land use planning simultaneously in their local decision-making in order to develop more transit-supportive communities." Among other things, the Guidelines:

- outline how provincial policies and programs can assist municipalities in supporting transit;
- describe emerging trends in transit-supportive land use planning;
- offer best practices from other jurisdictions to outline effective ways to support transit;
- identify land use practices that support transit, urban design elements that can make transit more attractive, and best practices that can contribute to increased ridership; and
- provide resources to transit and land use planning practitioners.

Background

Transit, as defined by MTO, is "public transit systems, including specialized transit, operated by or on behalf of municipal, regional or provincial governments, or transit authorities and includes all transit modes such as buses, streetcars, light rail and commuter rail lines." The Government of Ontario has indicated a commitment to prioritizing transit, and promotes it in a number of ways. This includes: streamlining the environmental assessment process for public transit projects (see Part 5.1 of the ECO's 2008/2009 Annual Report); developing and supporting regional transportation plans (e.g., Metrolinx's The Big Move; see page 33 of the ECO's 2011 Annual Greenhouse Gas Progress Report) and growth plans (e.g., the Growth Plan for the Greater Golden Horseshoe; see pages 28-35 of the ECO's 2006/2007 Annual Report); and investing more than \$10.8 billion to support transit since 2003.

One way that MTO promotes transit is by providing guidance on land use and transportation planning to municipalities. In April 1992, MTO and the Ministry of Municipal Affairs and Housing (MMAH) jointly published Transit-Supportive Land Use Planning Guidelines. The purpose of these guidelines was to provide ideas and guidance to land use planners, transportation planners, municipal politicians, developers, transportation engineers, transit operators and other stakeholders on planning and development practices that support the provision and use of public transit.

The 1992 document described 40 guidelines grouped around three general themes: 1) land use planning and physical changes to urban structure; 2) the physical design of transit routes, streetscapes and specialized uses (e.g., shopping centres and office spaces) to help create a more transit-supportive urban environment; and 3) the role that transit agencies, the planning process and various market and non-market incentives (e.g., high occupancy vehicle lanes, parking tariffs) can play in encouraging transit use. The 1992 guidelines promoted a network of high-density, mixed-use activity nodes and medium-density, mixed-use activity corridors with well-sited, pedestrian-supportive retail, employment facilities and transit stops, all connected by a grid-based transit system.

In a November 2009 information notice on the Environmental Registry (#010-8200), the ministry alerted the public of its intention to update the 1992 guidelines. In the notice, MTO noted that “recent provincial initiatives aimed at managing growth, curbing urban sprawl and supporting transit, along with complementary changes to key aspects of Ontario’s planning system, provide [MTO] with an opportune time to update the [guidelines].” In January 2011, MTO posted a policy proposal on the Registry (#011-1329) soliciting comments on the ministry’s draft update of the guidelines. A year later, the ministry posted a decision notice on the Registry and released the finalized Transit-Supportive Guidelines.

The Transit-Supportive Guidelines

The updated Guidelines contain 54 guidelines and 515 strategies to “assist municipal planners, transit agencies, developers and land use planning/transportation practitioners, working in communities of all sizes across Ontario, in creating an environment that is supportive of transit and increasing transit ridership.” The guidelines and strategies are grouped into three chapters (Community-Wide Guidelines; District-Level and Site-Specific Guidelines; and Transit Improvement Guidelines), and the following themes capture the range of transit-supportive strategies detailed within the document:

- Create a transit-supportive community structure;
- Retrofit existing built-up areas to make existing development more transit-supportive;
- Co-ordinate transit and land use decisions to minimize the need for trips and enhance access to transit services;
- Create a regional and local street and block pattern that supports efficient transit service and maximizes connectivity;
- Create complete streets that support and balance the needs of all users;
- Employ a range of targeted strategies and programs to encourage increased transit ridership;
- Locate and design transit stations and stops to enhance accessibility and user comfort;
- Create a transit-supportive urban form;
- Develop a family of transit services that cater to different patterns of land use and commuting needs;
- Integrate amenities and services to enhance user convenience and comfort.

Each guideline (see examples in Table 1) is supplemented by background information, descriptive figures, and web links to recommended resources, including appended case studies and guidelines, plans, standards, policies, manuals and strategies from other jurisdictions. Where applicable, strategies are identified as being more relevant to communities of a specific scale. Moreover, each strategy is identified with a “planning scale” that indicates the level at which the strategy might be implemented. Strategies with a strong environmental focus are also identified.

The fourth and final chapter in the document provides an overview of the implementation tools that can be used to achieve the document’s principles and guidelines. For example, because transit-supportive policies are embedded in upper-tier and lower-tier municipal official plans and their associated secondary plans, and are enforced through zoning by-laws and site plan approvals, MTO offers suggestions as to what should be considered and included within them. In this chapter, MTO also outlines strategies (including density and height bonuses, parking levies, and development charges) to pay for improvements or initiatives that can help support transit ridership.

The document's appendices include a glossary, a summary of resources and references and the 13 case studies referenced throughout. These best practice case studies provide examples of how municipalities across North America have attempted to increase ridership through the creation of more transit-supportive communities and the implementation of transit improvement strategies.

Table 1. Examples of Guidelines and Strategies Included in the Ministry of Transportation's Transit-Supportive Guidelines (2012).

Guideline	Strategy	Community Scale(s)	Suggested Planning Scale(s)
1.1.1. Settlement areas should be planned with an overall structure that is supportive of transit. This includes identifying places suitable for growth through the use of urban boundaries to promote intensification and linking built form and land use patterns to transit infrastructure.	#2) Official plans should designate urban boundaries around settlement areas in order to concentrate development and avoid uncontrolled rural and suburban sprawl.	All community scales.	Municipal scale (town or city-wide) and regional scale.
	#10) Avoid pre-servicing areas outside of the existing urban boundary with municipal sewer and water services, as this will lead to pressure for new development.	All community scales.	Municipal scale (town or city-wide) and regional scale.
2.2.2. Streets should be designed with sidewalks and crossings that are comfortable to use, with frequent intersections and crossing points that provide multiple routing options and amenities that enhance the experience of walking to and from transit.	#13) At signalized intersections with high pedestrian traffic, consider the use of a pedestrian priority phase to enable simultaneous pedestrian crossings in all directions.	Large communities (150,000-500,000 people) and big cities (>500,000 people)	Site and building scale.
3.1.4. Minimize the impacts of travel delays by implementing transit priority measures, more efficient boarding procedures, and computer-aided dispatching.	#6) Low-floor vehicles can reduce dwell times and improve travel times by enabling passengers to board more quickly.	All community scales.	

Of particular note, the updated guidelines include new or expanded guidelines and strategies to help municipalities achieve the following objectives.

Increase Ridership by Improving the Transit User's Experience:

The updated document includes several new guidelines to improve the quality of transit systems (including services, operations, programs and facilities) to enhance the user experience and increase usage. These guidelines relate to: selecting the appropriate transit service type; transit scheduling; reducing transit travel time (e.g., via queue jump lanes, signal priority, electronic pre-pay fare systems, and computer aided dispatch); implementing new technologies (e.g., providing real-time arrival times via text messages); managing transit assets; improving wayfinding systems (e.g., signage, maps and audio announcements); and improving passenger comfort (e.g., by incorporating passenger-activated radiant heating at remote transit stations), enjoyment (e.g., by making wireless internet available), convenience (e.g., via automatic fare collection systems), safety and security (e.g., by installing emergency phones and intercoms).

Increase Transit's Accessibility to Disabled People:

Ontario's *Accessibility for Ontarians with Disabilities Act, 2005 (AODA)* requires transit agencies to meet accessibility requirements under various standards. A newly added guideline offers strategies to make transit accessible to all, including those that may need special assistance. Strategies include: developing an accessibility plan to include accessible transit vehicles, routes, facilities, and transit information; providing accessibility training to all employees involved in customer services; and providing demand-responsive transit services for people who cannot use conventional fixed-route, fixed-schedule transit.

Support Cyclists:

Several guidelines in the updated document are dedicated solely to:

- promoting cycling (i.e., creating safe and convenient streets for cyclists that are linked with transit, minimize road conflicts, and contain amenities to support cycling); and
- enhancing cyclists' access to transit (e.g., developing cycling routes to and from transit stops and stations, designing transit stations to include bicycle parking and storage, air pumps, repair stands and other bike-friendly amenities, and improving the ability to load bicycles onto transit vehicles).

One forward-thinking strategy advanced under this topic is the provision of bike rental or bike share facilities within transit station areas, thereby extending the reach and use of the transit system.

Reduce the Environmental Impacts of Transit Systems:

In contrast to the 1992 guidelines, some of the strategies in the updated Guidelines focus not just on improving transit ridership and discouraging automobile use, but also on improving sustainability and reducing the environmental impacts of transit systems themselves. Such strategies include:

- encouraging the preservation of cultural heritage resources (e.g., through the adaptive reuse of structures) and discouraging the demolition of heritage sites;
- protecting natural areas and their ecological functions from development; and
- considering the inclusion of environmental features (e.g., solar panels, permeable paving and bio-swales to absorb and filter stormwater run-off) to improve the sustainability of large parking areas.

Evaluate the Performance of Transit Systems:

The updated document includes an entire guideline and several strategies dedicated to instilling performance monitoring and evaluation in transit planning and operations. Guideline 3.2.1 recommends that municipalities implement a performance monitoring plan to review trends and progress in achieving ridership and service targets, and develop a plan for meeting new targets. On this topic, MTO points out that "without a systematic approach to monitoring performance, transit agencies will not know whether they are meeting ridership and service quality targets, or whether problems and gaps in service exist. A performance monitoring plan is necessary to establish which measures will be used to evaluate how well ridership and service quality targets have been achieved." Furthermore, throughout the document, strategies to evaluate performance are included under other guidelines, including those related to designing complete streets and transit scheduling.

Examples of other guidelines and strategies not found in the 1992 document include:

- recognizing demographic trends, and planning to adapt transit services to meet the lifestyle and travel needs of a changing population;
- requiring large developments, institutions and employers to submit transportation demand management strategies (i.e., strategies that result in more efficient use of the transportation system by influencing travel behaviour) as a component of the site plan approval process. These could include a range of features such as car share spaces, cycling facilities or programs such as a carpool strategy, emergency ride home program, private shuttle services and transit fare incentives;

- discouraging low-density employment uses, such as auto wreckers, warehousing and storage facilities, and auto-oriented uses like gas stations, service centres and drive-through establishments, from locating in proximity to transit stops or in station areas;
- extending existing park and open space networks, where possible, to link with transit stops and station areas;
- within official plans, incorporating policies that encourage the integration of transit shelters and waiting areas into the design of buildings adjacent to the street;
- providing charging stations at transit stations to help support electric vehicle use; and
- guidelines and strategies specific to specialized uses, including office parks, industrial and employment areas, institutional campuses, large shopping and big box retail centres.

While the Guidelines have been considerably expanded with new topic areas and many new strategies, some specific strategies found in the 1992 version appear to have been dropped from the updated Guidelines, such as:

- establishing the basic goal within official plans that, wherever feasible, at least one major entrance to a shopping centre should be located adjacent to the street;
- enacting zoning by-laws that permit reduced, or zero, front yard depths and/or maximum setbacks in activity nodes, to encourage street-oriented development; and
- providing temporary bus turn-arounds when phased subdivision development is proposed, rather than using local streets as one-way loops to turn buses around.

Implications of the Decision

The Guidelines and Strategies are Suggestions, Not Requirements

Municipalities' official plans and decisions must be consistent with Ontario's Provincial Policy Statement, 2005 (PPS), which contains several transit-supportive planning policies, including: integrating transportation and land use considerations; identifying growth areas, nodes and corridors; and emphasizing intensification. According to MTO, the intention of the Transit-Supportive Guidelines is to assist municipalities in implementing the policies and objectives of the PPS, as well as those of the Growth Plan for the Greater Golden Horseshoe and the Growth Plan for Northern Ontario, where applicable. The ministry notes, however, that the Guidelines are not a statement of provincial policy and are not intended to assess compliance with the PPS. Rather, the Guidelines "are to be used at the discretion of municipalities and other planning authorities as an important reference in their planning and decision-making processes" to "[meet] the objective of building transit-supportive communities in support of provincial policies and directions."

The Guidelines Reflect a More Comprehensive and Modernized Approach

The 1992 guidelines focused on land use planning, the physical design of transit systems, the planning process, and incentives to create a more transit-supportive community. The Guidelines have been expanded and updated to reflect new policy frameworks, emerging ideas, and lessons from a generation of transit-supportive communities. While many of the principles and guidelines from the previous document have been retained, the updated Guidelines now include an expanded focus on transit service planning and operations to grow ridership through a range of tools, management approaches and technologies that did not exist 20 years ago.

Public Participation & EBR Process

In January 2011 – over a year after first alerting the public of its intentions – MTO posted a policy proposal on the Environmental Registry soliciting public comment on a draft of the updated Transit-Supportive Guidelines. During the 60-day comment period, MTO received 19 comments from a variety of stakeholders, including: municipalities and their transit agencies, environment committees and health departments; planning associations; and building and development associations.

Commenters were generally supportive of the Guidelines and MTO's efforts to produce a compilation of transit-friendly land use planning, urban design and transit operational practices that could be used to create a transit-supportive community and develop services and programs to increase ridership. For example, the Ontario Professional Planners Institute, the recognized voice of Ontario's planning profession, commented that the Guidelines are "an important and informative tool for all professionals involved in land use planning and the delivery of infrastructure. Widespread and effective use of these Guidelines will benefit all Ontarians and provide the basis to successfully meet the transportation challenges of tomorrow." Likewise, a joint submission from a number of municipalities (including Burlington, Oakville and Halton Region) commented that "both in terms of scope and level of detail, the document will provide a useful resource to assist in the establishment of transit-supportive policies and standards as well as in the evaluation of development proposals. From a transit perspective, this is a very relevant, timely and comprehensive 'best practice' document."

Despite their general support for the Guidelines, many of the commenters offered lists of very specific corrections and suggestions, pointing out misleading language, incorrect terminology, factual mistakes, typos, and unsuitable figures. As made apparent in MTO's detailed decision notice, the ministry clearly considered the comments and incorporated many of the suggestions into the final version, resulting in a more complete and accurate document and exemplifying the value of consultation via the Registry. Some of the larger, overarching concerns raised by commenters are as follows.

Standards Must Be Updated in Order to Fulfil the Principles of the Guidelines

Some of the commenters noted that many of the guidelines and strategies in the Guidelines will go unimplemented without changes to underlying standards. One commenter argued that "the communities envisioned in the document are unlikely to become reality unless strong [p]rovincial policy and direction on engineering standards are provided. In other words, since implementation depends on interpretation and application of detailed engineering design standards, the Transit-Supportive Guidelines will have limited influence as a resource document, and policies are unlikely to change without updated standards and manuals." Likewise, a collective of municipalities argued that "the implementation of the Guidelines will require an update of the current design and operating standards in particular for road design and traffic which conflict with the current Guidelines."

MTO responded that "while detailed guidance related to transit-supportive engineering standards is outside the scope of this project, the ministry will explore opportunities to work with municipalities in updating relevant standards and manuals to support the [Guidelines]."

The Guidelines Lack Content on Road Pricing

Two commenters observed that the Guidelines lack discussion, guidelines and strategies with respect to road pricing (i.e., charging motorists directly for driving on a particular roadway or in a particular area). One commenter noted that although the Guidelines have added several progressive strategies since their original publication in 1992, "there remains an elephant in the road: road pricing. If the province is serious about making transit (and other sustainable modes) competitive with single occupant vehicles, this oversight is unacceptable."

In response to this concern, MTO noted that although both the *Municipal Act, 2001* and the *City of Toronto Act, 2006* authorize the province to enact a regulation to allow municipalities to designate, operate and maintain toll roads, MTO is unaware of any request by a municipality to pass such a regulation. MTO added that the Government of Ontario is not currently considering the introduction of road tolls on provincially-owned highways.

The Development Charges Act, 1997 Must Be Updated to Implement Strategies in the Guidelines

The Guidelines state that Ontario's *Development Charges Act, 1997 (DCA)* allows municipalities to levy charges on new development to help finance the growth-related capital costs of providing roads, transit, and other transit-supportive land uses. Several commenters argued, however, that the *DCA* needs to be updated to allow municipalities to provide the expanded transit service envisioned in the Guidelines. In the words of one commenter, "the reality is that the wording of the [*DCA*] limits the levy ability to current and past transit service levels and not the service and equipment levels necessary to accommodate the increased population and employment levels being approved and planned. The Act requires modification along with new thinking and financial commitments to secure the transit services necessary to meet forecast demands."

MTO responded that an update of the *DCA* is outside the scope of the Transit-Supportive Guidelines, but the concern would be referred to MMAH for consideration.

The Guidelines Should be Permissive Rather than Prescriptive

Two building associations supported a "permissive" rather than "prescriptive" approach to transit planning and expressed concerns that some guidelines: encouraged municipalities to reassess the amount of land designated for urban development; discouraged greenfield development until a full build-out of intensification/infill areas; advised against pre-servicing areas outside of existing urban boundaries; duplicated existing policies in the PPS and the Growth Plan for the Greater Golden Horseshoe; and could cause delays in the land-use planning process.

MTO responded that the introduction of the Guidelines clarifies the Guidelines' role and relationship to provincial planning documents. Although MTO's decision notice did not respond to the other concerns listed above, the ministry stated that the comments were taken into consideration.

SEV

In its Statement of Environmental Values (SEV) consideration document, MTO explained how the updated Guidelines help support key considerations in its SEV, including the natural environment, environmental concerns, integrated transportation planning, research and development, and education and promotion. For example, MTO explained that the Guidelines help protect the natural environment since they support increased transit ridership and more compact development patterns, thereby helping to: manage congestion; reduce the length and number of vehicle trips; protect natural habitats; and reduce transportation-related air emissions.

Other Information

In February 2011, MTO released a sustainability strategy, entitled *Sustainability inSight: An innovative strategy for Ontario's Ministry of Transportation*. The purpose of this strategy is to incorporate sustainability into the ministry's internal business practices, as well as the policies and programs that affect Ontario's transportation system. The strategy identifies seven goals for more sustainable transportation and outlines a process for how the ministry intends to achieve these goals. See Section 1.19 of this Supplement for the ECO's review of this strategy.

ECO Comment

When all costs are considered, transit (including subways, buses, streetcars and trains) offers a more effective and efficient way of moving people than the private automobile. Transit is more space-efficient, energy-efficient, cost-effective, pedestrian-friendly, safe, and environmentally friendly. The ECO believes MTO's updated Transit-Supportive Guidelines provide clear and comprehensive guidelines, strategies, figures, and supplementary resources to help municipalities design, develop and operate transit-oriented communities. The ECO is particularly pleased to see guidelines and strategies that encourage municipalities to monitor and evaluate the performance of transit systems. The ECO encourages MTO to

follow its own guidance and use effective indicators (e.g., the car-transit modal split) to measure and evaluate the province's overall progress on increasing public transit use (see Chapter 6.3 of Part 2 of this year's Annual Report for more information on program evaluation).

The ECO agrees with MTO that the time was right for an update; since the original 1992 document was released, a lot of things have changed, including planning practices, Ontario's legislative framework, demographics, and technologies. What has not changed, however – despite provincial funding, MTO's 1992 guidance document, and other policy tools – is the car-dominated culture common to most of Ontario. Most of Ontario's urban environments continue to be automobile-oriented, with transit largely used as a marginal social service by those without automobile access. Except for the City of Toronto – where transit is used at a higher rate – in many Ontario municipalities generally less than 15 per cent of trips are taken by public transit. The Greater Toronto Area continues to suffer from some of the worst traffic congestion in North America (costing billions of dollars to the economy), and subdivisions are still built with meandering, pedestrian-unfriendly streets that require a car trip to buy a loaf of bread. While the guidelines and strategies offered by MTO may be progressive, they are still only suggestions to be considered and implemented at municipalities' discretion. To shift society to a transit-oriented system, transformative thinking and action is needed on transit operations, transportation planning, and – as the foundation for a transit-supportive environment – land use planning. To effect real change, perhaps municipalities need more prescriptive guidance.

If the government is serious about compelling municipalities to build transit-oriented communities, it can do more than just suggest best practices. It can actually strengthen the PPS and require that municipal official plans be consistent with many of the strategies in the Guidelines. The ECO looks forward to reviewing how the government improves transit-supportive land use planning requirements in the PPS, which is currently under review.

Moreover, just as the PPS needs revamping, municipalities' various design and operating standards, which were developed to manage conventional growth patterns, also need to be revised to support transit-supportive planning and design. The Guidelines suggest that alternative transit-supportive development standards could be incorporated into official plan policies and could include: streetscape standards to encourage higher levels of walking/cycling; parking standards; building standards; and transportation-demand management requirements. MTO's assurance that it "will explore opportunities to work with municipalities in updating relevant standards and manuals" is heartening. However, as several Ontario municipalities have noted, this undertaking is likely critical to achieving the communities envisioned in MTO's Guidelines, and should be given priority within the Guidelines and the ministry.

Another concept that should have been given more weight in the Guidelines is road pricing. The ECO has noted before that putting a price on road use can motivate sustainable transport choices (transit, cycling, walking), finance public transit and diminish traffic congestion, vehicle accidents, greenhouse gas emissions, air pollution, gasoline consumption and the need for expensive road expansion (see pages 18-22 of the ECO's 2010 Annual Greenhouse Gas Progress Report). While the Guidelines suggest several transportation-demand management strategies (e.g., increasing parking fees to reduce single-occupant vehicle use) and funding mechanisms (e.g., density and height bonuses) to support public transit, notably absent in this discussion was any mention of the benefits of road tolls, congestion charges and other forms of road pricing. The Guidelines' failure to even mention the successes of road pricing in other jurisdictions, and explain how Ontario municipalities might initiate road pricing (or what support the province might provide), represents a curious and unfortunate oversight.

SECTION 2

ECO REVIEWS OF APPLICATIONS FOR REVIEW

SECTION 2: ECO REVIEWS OF APPLICATIONS FOR REVIEW

2.1 Ministry of the Environment

Review of Application R0334:

2.1.1 Classification of Chromium-containing Waste as Hazardous (Review Undertaken by MOE)

Background/Summary of Issues

Almost 17 years ago, in November 1995, two applicants from the tanning industry requested that the Ministry of the Environment (MOE) regulate the different forms of chromium according to their toxicity.

Chromium is a metal that is used for a variety of purposes, including the production of stainless steel, chrome plating, and as a catalyst in the dyeing and tanning of leather. There are a number of different chromium compounds, but only some forms are toxic. Hexavalent chromium, for example, is known to cause health effects, such as skin rashes, allergic reactions, respiratory problems, kidney and liver damage and lung cancer, particularly in people who work in the steel and textile industries. Hexavalent chromium was declared toxic to the environment and a danger to human life or health under the *Canadian Environmental Protection Act, 1999 (CEPA)*.

In Ontario, a waste is considered “hazardous” under Regulation 347 (General – Waste Management), made under the *Environmental Protection Act (EPA)*, if the total chromium level in a leachate test exceeds five milligrams per litre, regardless of whether the waste contains the toxic or non-toxic forms of chromium. The applicants noted that leather tanning uses only the trivalent form of chromium and less than 5 per cent of the chromium in tannery waste is typically available for leaching. However, under Regulation 347, tannery waste is usually designated as “hazardous,” and must be transported and disposed of at a higher cost than non-hazardous waste. The applicants argued that continuing to classify the non-toxic form of chromium as hazardous “places an unnecessary economic burden on industry” for managing chromium-contaminated waste and diverts resources away from “more legitimate environmental concerns.”

The applicants noted that other jurisdictions, including the United States, differentiate between toxic and non-toxic forms of chromium.

Ministry Response

In 1996, MOE agreed to undertake the review, advising the applicants that the ministry’s review would be “coordinated and harmonized with the federal review of the national hazardous waste definition.” In 2005, the federal government updated the national hazardous waste regulations, which did not include an exemption for tanning waste containing chromium. Despite this federal decision – which ostensibly was the cause of the delay of the ministry’s review – MOE still has not made a decision on this application.

ECO Comment

In past reports, the ECO has repeatedly criticized MOE for its unprecedented delay – now almost 17 years – in making a final decision on this *EBR* application. MOE’s objective of co-ordinating and harmonizing its review with the federal government’s review was understandable in 1996; however, given that the federal government completed its review seven years ago, MOE’s failure to take independent action can no longer be justified. The ECO once again urges MOE to make a decision and close this application.

Review of Application R2007018:**2.1.2 Fluorides in Drinking Water
(Review Undertaken by MOE)**

Keywords: drinking water; fluoride; health; *Safe Drinking Water Act, 2002*

Background/Summary of Issues

In November 2007, two applicants requested that the Ministry of the Environment (MOE) review existing policies, regulations and standards (as well as the need for new regulations and policies) under the *Safe Drinking Water Act, 2002* (SDWA) as they relate to the addition of inorganic fluorides (and any other accompanying contaminants) to drinking water.

Although Japan, China, 98 per cent of Europe, and some Ontario cities (e.g., Welland, Thorold and Dryden) have banned or stopped adding fluoride to drinking water, several municipalities in Ontario continue this practice. Most fluoridated communities in Ontario add hydrofluorosilicic acid (an inorganic fluoride) to their drinking water. The applicants assert that the “additions of toxic inorganic [vs. organic] fluorides...with its accompanying contaminants such as inorganic arsenic and lead into our drinking water” have:

- resulted in increased contamination of groundwater, surface water and sewage effluent to water bodies and natural environments;
- caused significant harm to water bodies, ground water sources and the life therein; and
- caused harm to the health of certain subsets of the population, including babies, pregnant women, fetuses and the elderly.

Ministry Response

MOE agreed to undertake this review in February 2008. The ministry indicated that Health Canada, as secretariat to the Federal-Provincial-Territorial Committee on Drinking Water, was revising the technical support document for the Canadian Drinking Water Quality Guideline for fluoride and was expected to conduct a national consultation within two years. MOE stated that the Government of Ontario participates on the Committee on Drinking Water and will consider the applicants' comments before undertaking a provincial consultation via the Environmental Registry. MOE noted that this provincial consultation “will be carried out at the same time as Health Canada conducts the national consultation.” The ministry stated that comments received through the provincial public consultation, as well as materials provided in the application, will be considered by the province in setting new policies regarding fluoride in drinking water.

In September 2009, MOE posted an information notice on the Environmental Registry (#010-7777) informing the public and stakeholders that Health Canada was consulting the public on its technical support document “Fluoride in Drinking Water.” Health Canada's national consultation period was held for 71 days, ending November 27, 2009. In the information notice, MOE indicated that it would carry out its own consultation under an Environmental Registry policy proposal notice once the Health Canada document had been finalized. The ministry stated that it will use information provided by Health Canada's consultation to review and amend, if necessary, its position on fluoridation as outlined in the ministry's “Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines.”

In January 2010, MOE sent a letter to the applicants to update them on the status of their application for review. MOE explained that Health Canada was in the process of compiling and reviewing the many

comments it had received. Moreover, the ministry noted that Health Canada was responding to a federal petition regarding fluoride, which could delay the review and finalization of Health Canada's rationale document for at least a year. The ministry noted that this delay would in turn delay MOE's review of fluoride. MOE assured the applicants that it is still committed to reviewing any new information cited in the final version of Health Canada's rationale document that may have an impact on provincial policies regarding the fluoridation of Ontario's drinking water. Moreover, the ministry stated that if this review results in any changes to policies related to inorganic fluorides in drinking water, it will conduct stakeholder consultation on the Environmental Registry.

In January 2011, the ECO contacted MOE for an update on the status of Health Canada's guideline revision and therefore MOE's fluoride review. MOE responded that Health Canada's revised Canadian Drinking Water Quality Guideline for fluoride has undergone a number of delays. Although Health Canada expected to post the final guideline rationale document in the first quarter of 2011, the calling of a federal election in March 2011 delayed document postings by the federal government. In May 2011, MOE informed the applicants that the ministry would provide a final response on the application for review once the Health Canada document was posted on its website.

In June 2011, Health Canada finally published an update to its technical support document for the Canadian Drinking Water Quality Guideline for fluoride. The final document reaffirms the maximum acceptable concentration for fluoride in drinking water as 1.5 milligrams per litre. The technical document also recommended an updated, slightly lowered optimal fluoride concentration for communities choosing to fluoridate their drinking water supply. Health Canada noted that "currently available peer-reviewed scientific studies continue to indicate that there are no adverse health effects from exposure to fluoride in drinking water at or below the maximum acceptable concentration."

In April 2012, Ontario's Chief Medical Officer of Health released a report recommending "a review of current policies and mechanisms to ensure that all Ontarians have access to optimally fluoridated drinking water." The report stated that fluoridation of Ontario's drinking water supplies is a safe, cost-effective and efficient population health intervention, and improvements to oral health in Ontario "would be undermined by the removal of fluoridation from the water supply."

As of May 2012, MOE has not provided a final response to this application. However, in May 2012, the ministry informed the ECO that it is working on its response and hoping to close this review relatively "soon."

ECO Comment

The ECO will review the handling of this application once the ministry has completed its review.

Review of Application R2008014:

2.1.3 Regulation of Air Pollution Hot Spots (Review Undertaken by MOE)

Keywords: air pollution; air sheds; cumulative impacts; hot spots

Background/Summary of Issues

In January 2009, two applicants requested a review of the need for a new regulatory framework to fill gaps in Ontario's air pollution laws related to cumulative impacts of pollution, particularly air pollution "hot spots." Hot spots are described by the applicants as "multi-pollutant, multi-facility areas with significant

background levels of pollutants or pollutant levels from local sources that exceed toxic air pollutant standards and areas impacted by persistent, bioaccumulative, toxic air pollutants from industrial sources.”

The applicants are concerned that air pollution hot spots in Ontario threaten the physical and psychological health of people living in those areas, and compromise their right to live in a healthful environment. As evidence of significant deficiencies in Ontario’s air pollution regulatory regime, the applicants cited the environmental health crisis in the community of Aamjiwnaang First Nation near Sarnia, Ontario, an air pollution hot spot area known as “Chemical Valley.” The applicants assert that the current regulatory framework is “unable to adequately protect the environment or human health from the dangers associated with air pollution.”

The applicants asked the Ministry of the Environment (MOE) to:

- Identify pollution hot spots areas in Ontario requiring pollution reduction plans;
- Regulate air pollution in hot spot areas using a cumulative effects approach;
- Require that any assessment, report or estimate of emissions and/or pollutant concentrations include background levels of pollution;
- Require MOE standards to be ratcheted down over regulated enforceable timelines;
- Make the reduction of emissions of persistent and bioaccumulative pollutants a priority;
- Require that “maximum achievable control technologies” and “lowest achievable emission rates” be used to achieve a reduction of overall emissions;
- Require ongoing monitoring of emission sources at industrial facilities;
- Engage community members and industry in the development of pollution reduction plans;
- Prohibit the issuance of new or amended Certificates of Approval (C of A) while pollution reduction plans are being developed, unless the approvals would result in a reduction of emissions; and
- Ensure that pollution reduction plans set out maximum limits on pollution that can be approved by MOE under the C of A process.

The ECO forwarded the application to MOE.

Ministry Response

By letter dated May 11, 2009, MOE notified the applicants that it would undertake the requested review. MOE stated that it is

committed to developing the long-term tools, including science, policies and guidelines to support the application of an ecosystem approach, including consideration of cumulative effects. As such the ministry is currently reviewing how it applies the principles of its Statement of Environmental Values (SEV), including cumulative effects assessment and the ecosystem approach, in its environmentally significant decision making.

The ministry advised the applicants that, as part of its review of the environmental decision-making process, it would review the matters raised in the application. The ministry noted that if the review concludes that the current framework warrants revision, the ministry “will actively engage the regulated community, local residents, and other stakeholders.”

In May 2010, the ECO requested an update from MOE on the status of its review. MOE informed the ECO that the ministry has been working on its SEV Guiding Principles Review, which is considering “how to best operationalize the SEV principles, including consideration of cumulative effects.” MOE stated that as part of the SEV project, the ministry is looking at new approaches, examining experiences in other jurisdictions, and actively considering the proposal presented in the application for review.

A year later, when MOE had still not completed its review, the ECO requested another update from the ministry. MOE responded that it continues to consider the issues raised in the application as the ministry determines how best to incorporate cumulative effects assessment in its decision-making processes.

MOE also responded that “the ministry is working on a number of initiatives that are expected to incorporate a cumulative approach, including its work with [the Canadian Council of Ministers of the Environment (CCME)] regarding proceeding with an Air Quality Management System, participation in a research consortium on aquatic cumulative effects and requiring proponents to undertake formal cumulative effects assessments on a case by case basis.”

In May 2012, MOE informed the ECO that it still had not completed its review of the application because it is tied to initiatives related to the assessment of cumulative effects and the Air Quality Management System.

Other Information

In October 2010, the CCME announced that federal, provincial and territorial Environmental Ministers are “moving forward with a new collaborative air management approach to better protect human health and the environment.” The CCME stated that the proposed new air quality management system would: include more ambitious Canadian air quality standards and consistent industrial emissions standards across the country; and establish regionally co-ordinated airsheds and air zones within individual provinces and territories. The system, which is based on a proposed model developed by a committee of experts, is to be developed in 2011 and begin implementation in 2013.

ECO Comment

The ECO is pleased that MOE has agreed to undertake this review. As MOE’s review is ongoing, the ECO will report on the ministry’s handling of this application and the outcome of the review in a future reporting year.

Review of Application R2009015:

2.1.4 Regulation of Airborne Fine Particulates (Review Completed by MOE outside of ECO’s Current Reporting Period)

Background/Summary of Issues

On December 18, 2009, the Town of Oakville used the *EBR* to request new rules to protect human health from airborne fine particulate matter (PM), specifically PM with a diameter less than 2.5 micrometers (PM_{2.5}). The Town issued a related news release arguing that existing regulatory frameworks do not protect communities from fine PM. The news release cited Oakville’s mayor, Rob Burton, who explained “There is no limit on fine PM concentrations now, and no limit on how much more can be added into our already overtaxed airshed. We’re requesting a regulation that would require extensive assessment of the total fine PM levels for an area, and then ensure the results of the assessment are public. Residents should have an opportunity to comment before the Province makes any decisions that could affect their health.”

The application suggested that the Ministry of the Environment (MOE) might be most appropriate to implement this request, and noted that MOE is committed to considering cumulative effects on the environment, according to its Statement of Environmental Values. The ECO sent this application to MOE.

Ministry Response

MOE concluded in November 2010 that a review was warranted of the effectiveness of the current policy framework in addressing fine PM. Specifically, MOE acknowledged that “there may be a policy gap with

respect to domestic sources of primary PM_{2.5}.” The ministry noted that its review would take a minimum of 15 months.

On May 22, 2012, the ministry sent the applicants its completed review of Ontario’s management framework for fine PM_{2.5}. The four page document noted that Ontario’s overall emissions of primary PM_{2.5} have decreased by approximately 33 per cent from 2001 to 2010, thanks largely to declining industrial emissions; the review also noted that since 2008, Ontario has achieved the Canada-Wide Standard for PM_{2.5}. The review also observed that of remaining sources, residential sources (i.e., fireplaces and wood burning stoves) now represent the largest fraction – approximately 40 per cent – of PM_{2.5} emissions in Ontario. Consequently, the ministry “concluded that there is no need to take further action to revise Ontario’s approach to the management of PM_{2.5}.”

ECO Comment

Since MOE’s review was released after the end of our 2011/2012 reporting period, the ECO will review the ministry’s handling of this application in the 2012/2013 reporting year.

Review of Application R2009016:

2.1.5 Stays Pending Decisions on *EBR* Leave to Appeal Applications (Decision Pending by MOE)

Keywords: leave to appeal; appeal; stay; procedure; Environmental Review Tribunal; *Environmental Bill of Rights, 1993*

Background/Summary of Issues

The applicants filed a request for a new regulation under the *Environmental Bill of Rights, 1993* (*EBR*) that would provide jurisdiction to stay a decision subject to a leave to appeal (LTA) application made under the *EBR*. A “stay” would suspend any activities permitted by an instrument while an LTA application challenging the decision to issue the instrument is being considered. If leave is granted, the *EBR* already provides for an automatic stay pending the outcome of the appeal.

LTA applications under the *EBR* are adjudicated by administrative tribunals such as the Environmental Review Tribunal (ERT). Although the ERT attempts to render decisions on LTA applications within 30 days of receiving an application, many factors can prolong deliberation on whether to grant leave.

Delays in the LTA process are problematic because there is currently no way for the ERT to stay the government’s decision pending a determination on whether leave should be granted. The applicants contend that this lack of jurisdiction leads to uncertainty, and can give rise to “a situation where significant harm can be inflicted on the environment pending a decision on leave to appeal.” The applicants cited an example in which a Permit to Take Water (PTTW) for an area near a provincially significant wetland was completely acted upon before residents had an opportunity to challenge the merits of the permit in a formal hearing before the ERT.

The applicants noted that Cabinet has the power, under subsection 121(1)(s) of the *EBR*, to make regulations “providing for stays pending decisions on applications for leave to appeal.” However, to date no regulation has been made. The applicants argued that a new regulation providing for stays pending LTA decisions would be in the public interest and would support the purposes of the *EBR* to protect and restore the environment and to enhance public participation.

Ministry Response

Under the *EBR*, the Ministry of the Environment (MOE) was required to make a decision on whether to undertake the requested review by March 19, 2010 (i.e., 60 days after receipt of the application). On March 22, 2010, the responsible Assistant Deputy Minister (ADM) in the ministry's Integrated Environmental Policy Division wrote to the applicants and explained that MOE was unable to make a decision by March 19, 2010, and that a decision would be provided to the applicants and the ECO by May 14, 2010. On May 14, 2010, the ADM notified the applicants that MOE had still not made a decision but would be in a position to render a decision by July 30, 2010.

On August 23, 2010, MOE finally provided the applicants with its preliminary decision on the application. The ministry informed the applicants that it would undertake the requested review, but only as it relates to PTTWs. The ministry explained that it would be limiting the review to PTTWs, as they are instruments that may potentially be implemented or expire before a LTA request is heard by the ERT, and because PTTWs were not affected by the ministry-wide Modernization of Approvals program underway at the time.

MOE initially indicated that it would need 12 months to complete the review. However, on August 16, 2011 (just days short of the 12-month mark), the ministry informed the applicants that it was aligning the review with another more comprehensive review of the *EBR* and its regulations that the ministry had agreed to undertake in March 2011 (for more information on that application, refer to R2010009 in Section 2.1.7 of this Supplement). The ministry stated that "the issues contemplated in a review of the need for any new regulation providing for stays pending leave to appeal decisions would be within the scope of a review of the *EBR* itself." The ministry stated that it would begin its review immediately, and that it anticipated requiring 12 – 16 months to complete the review.

ECO Comment

The ECO will review the handling of this application once the ministry has completed and provided a decision on its review.

Review of Application R2010004:

2.1.6 An MOE Sewage Works Approval (Decision Undertaken by MOE)

Keywords: facultative sewage lagoon; retention time; average daily flow; rated capacity; plug-flow model

In October 2010, two applicants submitted an application to the ECO seeking a review of a Certificate of Approval (C of A) for a two-cell, open-air sewage lagoon operated by the Municipality of French River. The applicants contend that the C of A overestimates the capacity of the system by 20 per cent. The applicants further contend that as a result of this miscalculation, the lagoons are often discharged early, affecting the quality of the receiving waters. (Wolseley Bay, downstream from the sewage works, has on various occasions experienced impaired water quality due to algal blooms.) The applicants also expressed concern that this same error may have been made in the calculations of open-air lagoon capacity in other areas of the province, resulting in widespread potential for ongoing water pollution. They requested that the C of A be reviewed and, as part of that review, that the Ministry of the Environment (MOE) address their concern regarding the method of calculating the lagoon system's required capacity.

Background

The sewage treatment system in question – hereafter referred to as the Noëlville Sewage Lagoon (NSL) because of its geographical location – is a two-cell facultative lagoon, with seasonal discharge. This type

of system, which is very common in rural Ontario, works by holding sewage in a number of open-air shallow ponds or “cells”, which are usually about 1.5 metres in depth, for a pre-determined period of time. During this period, naturally occurring micro-organisms reduce nutrient and pathogen levels to the point where the treated effluent can be safely released to a local body of surface water, such as a river or lake. The amount of sewage that a lagoon can receive and properly treat on an annual basis (its capacity) depends on a number of factors, such as the total physical space available (volume), the amount of time that the sewage must remain in the system (retention time), and the specific type of system design (see below).

Types of Facultative Lagoon Systems

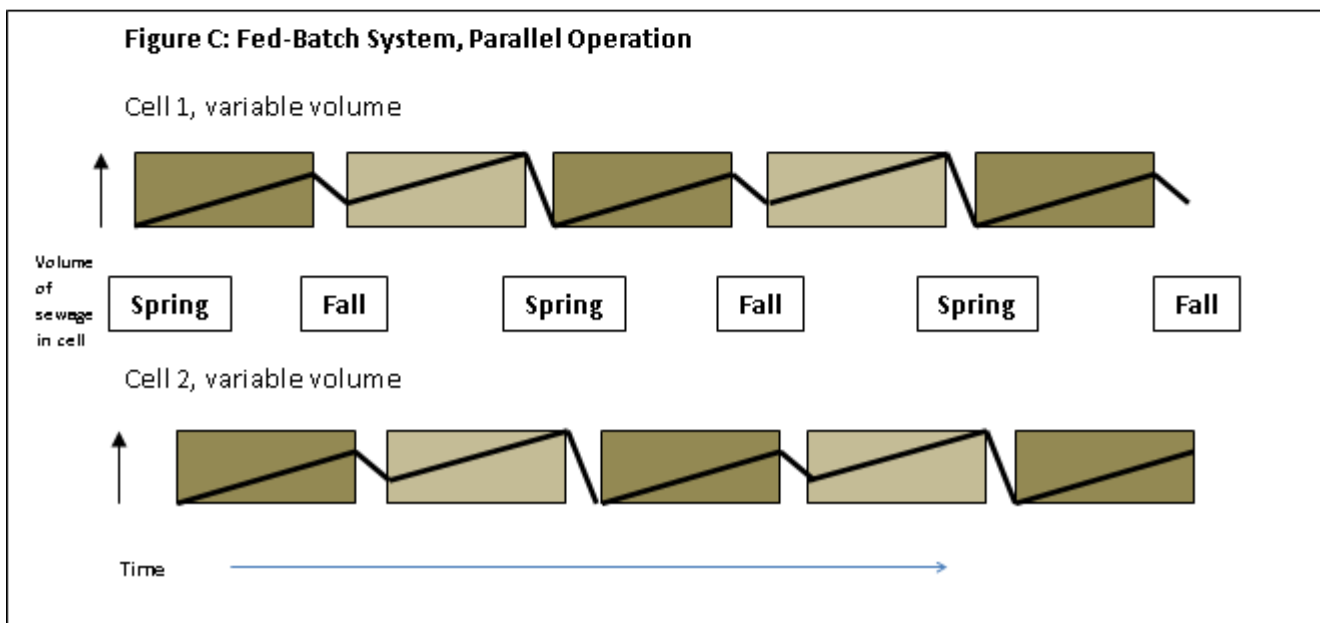
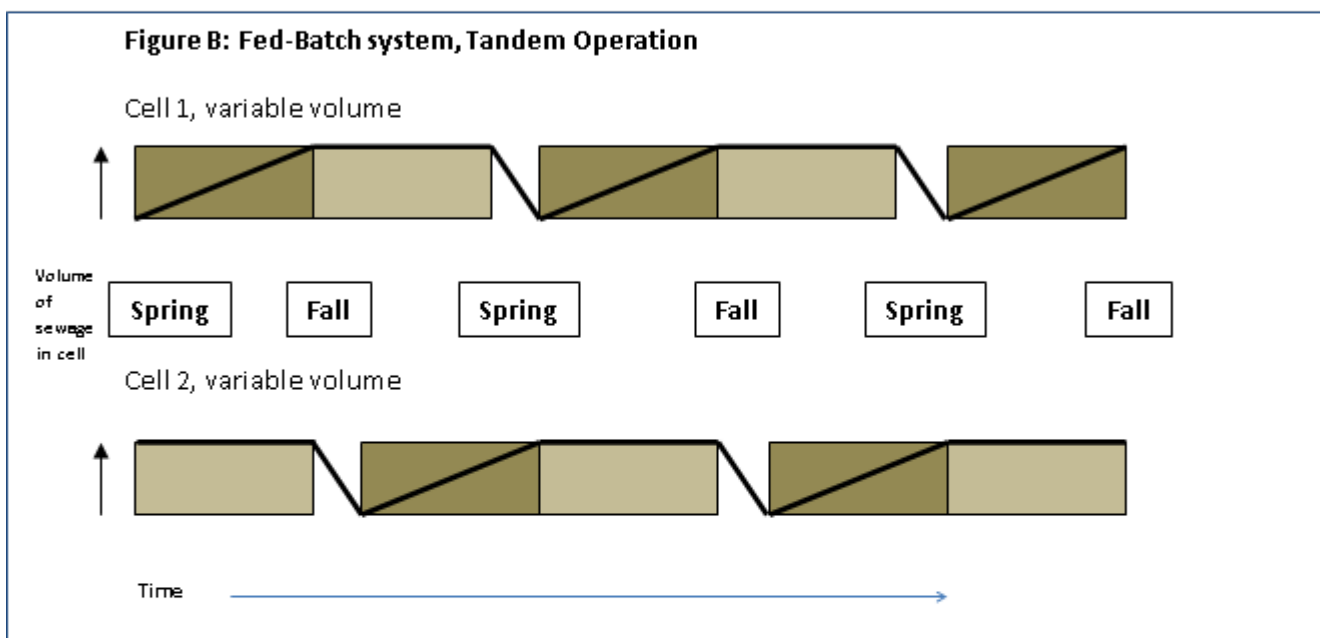
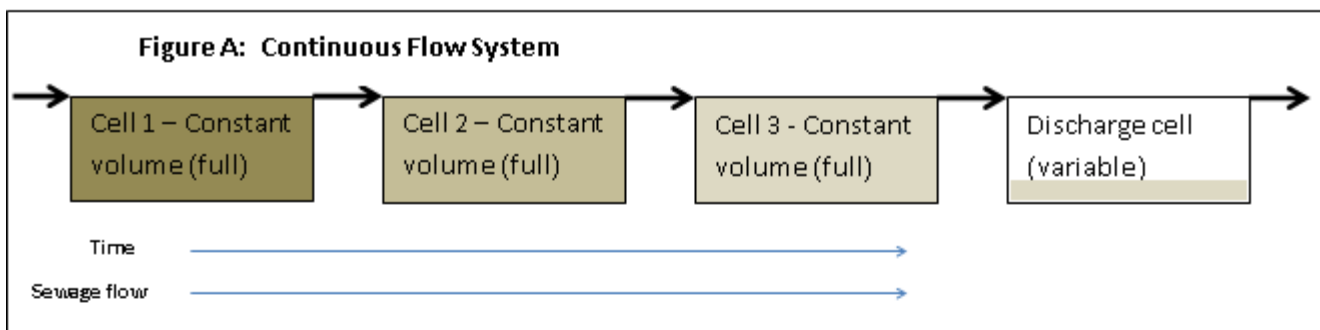
Facultative lagoon systems can be designed and operated in a number of ways. The systems relevant to this review are as follows:

Continuous Flow Systems:

The individual cells are in series (see Figure A), which means that the sewage flows through a number of lagoons in succession before being released into the environment. In these systems, inflow into the first lagoon is continuous and all of the cells, except the final one in the series, are full all the time, with outflow always equal to the inflow. The last lagoon in the series is the discharge lagoon, which receives inflow continuously but can be discharged periodically.

Fed-Batch Systems:

The cells in fed-batch systems receive sewage continuously, except when holding or discharging, but they discharge effluent intermittently, in batches. In Ontario, these batch releases are usually in the fall or the spring. Theoretically, two (or more) cells can be operated in tandem or in parallel. If operated in tandem (see Figure B), one cell fills for six months, holds for at least five months, and then discharges during the twelfth month; the other cell holds for five of the six months that the first cell is filling, then discharges its contents in the sixth month, just in time to start receiving the sewage as the first cell reaches capacity. In this way, the cells alternate between filling and holding on an annual basis. The fed-batch tandem operation has commonly been the preferred mode of sewage operation in Ontario.



If operated in parallel (see Figure C), each cell receives a share of the flow on a daily basis, discharges some portion of its contents in the fall, continues to fill until the spring, then discharges the balance of its contents. There is no holding period (i.e., a period with neither inflow nor discharge) in this operational mode – a distinction that is important to the discussion below. Also, to protect waterways, a cell should not receive fresh sewage as it discharges. Thus, when one cell discharges, all of the incoming flow must be directed to the other cell. To the best of the ECO's knowledge, a fed-batch parallel operation has never actually been used.

Rated Capacity of Lagoon Systems

For every sewage lagoon system, MOE will establish a "rated capacity", which is the maximum average daily amount of sewage that the facility is permitted to receive, as set out in the facility's C of A. The rated capacity is expressed as the maximum allowable "average daily flow" (ADF) in cubic metres (m³).

Rated capacity depends on two things: the total available volume of the cells; and the amount of time the sewage needs to be retained in the lagoon before it can be safely released, known as the "hydraulic retention time" (HRT).

Hydraulic Retention Time

The HRT is "the theoretical amount of time required for a given flow to pass through a lagoon." It is important to differentiate between the two related but different ways in which this term is used. With respect to the treatment process, HRT represents the time required for the biological processes to work (the "required HRT"); alternatively, with respect to the lagoon operation, HRT represents the amount of retention time supplied by a particular system (the "system HRT"). Completely different calculations are involved in determining each of these figures. With respect to "required" HRT, scientists have modeled what occurs biologically in different types of sewage treatment systems and these models can be used to predict the final quality of the effluent, or alternatively, for determining the HRT required to achieve that desired quality. A system's HRT, on the other hand, is the actual amount of time that the sewage stays in the system and is a function of volume, rate of flow, and type of system operation.

The Relationship Between HRT, Rate of Flow and Volume in Continuous-Flow vs. Fed-Batch Systems

In calculating the system HRT supplied by a continuous-flow system, it is important to note that the volume is always completely utilized, as the cells are always full. The system HRT, therefore, will simply be the volume of the system divided by the rate of flow ($HRT = V / ADF$). For example, the HRT for an open-drain bathtub that holds 100 litres, is always full, and has an inflow and outflow of 10 litres per minute, will be 10 minutes (volume/rate of flow). This means that the average water droplet will take 10 minutes to pass through the system.

However, for fed-batch systems, the relationship between volume and HRT is more complex, and will depend on the number of cells, how often discharge occurs, and how much of each cell's time is spent holding versus filling. The system HRT for a fed-batch system is variable because each particle of sewage will have been held for a different amount of time depending on what point during the filling period it entered the system. To use the same bathtub example, a 100-litre closed-drain tub will take 10 minutes to fill with an inflow of 10 litres per minute, but if the material is drained at the end of the filling period, the average system HRT will not have been 10 minutes, but rather 5 minutes. That is because the first droplets into the system will have been in the tub for 10 minutes, but the last droplets will only have been in the tub for a few moments, and the average particle will have been in the tub for 5 minutes. In order to get 10 minutes average HRT, the water will have to be held another 5 minutes prior to discharge. That is why, for fed-batch operations, the system's HRT is calculated as one-half of the filling time plus the holding time ($HRT = \frac{1}{2} T_f + T_h$).

Summary of Issues

The applicants contend that MOE made an error calculating both the HRT and the rated capacity of the NSL. To support their argument, the applicants drew upon the following information: the C of A issued to the Municipality of French River to operate the NSL; a Septage Plan Review prepared by a consulting engineering firm in January 2010 for the municipality; a summary of lagoon discharge activity for the years 2007 through 2009; and information on the quality of the water in the French River, which they suggest had been contaminated by algal blooms in Wolseley Bay caused by the premature release of NSL effluent.

The C of A describes the facility as a “seasonal retention facultative lagoon” with “two cells arranged in parallel” with a combined volume of 143,168 cubic metres (m^3), and a “design retention time of 300 days.” The applicants stated that the 300-day “retention time” referred to in the C of A stands for the cumulative amount of time that the two cells are holding material (not the HRT). However, the applicants asserted that to achieve a total holding time of 300 days, each cell would need to hold sewage for 150 days (five months). This would only make sense if the NSL facility were a fed-batch system operated in tandem (Figure B), which the applicants asserted is the actual type of system in use at the facility (not a fed-batch system in parallel, Figure C).

Moreover, the applicants argued that MOE appears to be confusing the 300 days of total holding time with a 300-day HRT. The applicants state that a system HRT of 300 days (i.e., where each drop of sewage is theoretically held for 300 days) would only occur if the system were operating as a continuous-flow system, where the lagoon is always full and inflow exactly equals outflow. As evidence of this confusion, the applicants referred to the engineer’s Septage Plan Review, which states that the 300-day retention time specified in the C of A “indicates that any effluent entering the lagoon should remain for an average of 300 days prior to being discharged, and determines the lagoon’s allowable daily average loading.”

The applicants then stated that MOE appears to have erroneously calculated the rated capacity for the lagoon system as being 477 m^3 per day by incorrectly dividing the total volume of the system (143,168 m^3) by an HRT of 300 days, which would only make sense if the NSL were a continuous-flow system (Figure A). Again, the applicants referred to the engineering report, which states that the allowable ADF of 477 m^3 in the C of A was derived by dividing the total volume of the lagoon (143,168 m^3) by the 300-day design retention time.

As described above, a batch system operating in tandem has a maximum annual capacity equal to the volume of the two cells, and collectively receives sewage 365 days of the year (because each cell fills for six months). According to the applicants, therefore, the maximum allowable ADF should be calculated by dividing the total volume available (143,168 m^3) by the number of days in the year (365). This calculation results in an ADF of 392 m^3 per day, which is almost 20 per cent less than the 477 m^3 per day specified in the C of A.

The applicants argued that if the facility does indeed receive 477 m^3 of sewage per day, the lagoon system would only have 300 days of capacity and would not be able to operate as designed (i.e., would force an early discharge). They further maintained that this miscalculation had already resulted in the lagoon being discharged early, including several instances in 2009 when the holding time had been only two or three days.

The applicants included the release reports for the lagoon system issued by the operators, the Ontario Clean Water Agency (OCWA), which identified four occasions over the 2007-2009 period when one of the cells had been released without any holding period, that is, immediately upon reaching capacity. On three other occasions, the effluent in full cells had been held for an entire six-month period before release. The applicants maintained that the early releases were due to the fact that the system was receiving more effluent than it could properly handle, due to the alleged miscalculation of the system capacity. They also pointed out that there had been a bypass of the lagoon in April 2007, when about 300,000 litres of

untreated sewage was discharged to the river, and that during the fall discharge in 2008, when both cells were emptied, the effluent exceeded MOE limits by more than 30 per cent.

Ministry Response

On December 20, 2010, MOE responded to the applicants, indicating that a review was warranted and would be conducted, estimating a completion date of June 18, 2011. On July 12, 2011, MOE sent a report of the review (the “report”) to the applicants and the ECO. The review was conducted by the ministry’s Northern Region, Sudbury District Office and the Environmental Assessment and Approvals Branch.

The ministry began the report by summarizing the regulatory history of the NSL facility. The original C of A was issued in 1977 and contained no rated flow capacity or effluent limits. A ministry inspection in 2005 resulted in the municipality being required to apply for a new C of A, which was issued in 2006 and rated the facility’s capacity at 477 m³ per day. It also provided effluent limits for the facility. These were: carbonaceous biochemical oxygen demand per five days (CBOD₅) of 25 milligrams per litre (mg/L), total suspended solids (TSS) of 25 mg/L and total phosphorus (TP) of 1 mg/L. The C of A was amended in 2010 to clarify discharge timing and notification requirements.

The ministry’s report assessed and/or reviewed the following:

- MOE’s approach to confirm the design capacity of the NSL facility;
- a comparison of the design criteria for the NSL facility against the ministry’s design guidelines for facultative sewage treatment lagoons;
- the applicants’ approach for determining lagoon capacity;
- MOE’s approach to confirm the design capacity of another facility;
- ministry guidance for seasonal discharge facultative lagoons;
- the performance of the NSL facility from 2005 to 2010; and
- sediment sampling in Wolseley Bay.

Assessment of MOE’s Approach to Confirm the Design Capacity

The ministry first reported on its assessment of the methods used to confirm the NSL design capacity. It stated clearly at the outset that the design approach used was based on continuous operation of the lagoons, which it described as “plug flow reactors”: “Plug flow reactors use a continuous flow through the lagoon to permit biological, chemical, and physical reactions to occur, e.g., bio-degradation of nutrients and settling of suspended solids. As wastewater moves through a lagoon system, water quality improves, e.g., becomes less turbid and contaminant levels decrease.”

The ministry then stated that batch mode processing is another common lagoon design, but that the NSL system was not designed to be operated in batch mode.

The ministry’s next point was that “plug flow reactor lagoons are typically designed to be operated in parallel, receiving approximately equal raw sewage flows continuously. During discharge periods, the lagoons typically, though are not required to, discharge equal volumes of effluent simultaneously.” (It should be noted that MOE’s report was incorrect on this point: the current C of A specifically forbids the simultaneous discharge of the two cells). The ECO believes that this system is best described by the fed-batch system, parallel operation, shown in Figure C (with a correction to allow for offset discharge periods, as per the C of A).

It flows from this design, stated the ministry, that HRT, defined as “the theoretical amount of time required for a given flow to pass through a lagoon,” is calculated by dividing the volume of a lagoon by the design flow rate.

In addition, the report pointed out that the system has to operate within spring and fall discharge constraints. The spring discharge constraint is a maximum daily CBOD₅ loading of 158.9 kg over a maximum of 35 days. The report stated that this establishes the maximum discharge volume during the spring as 222,460 m³. The fall discharge constraint is a maximum daily CBOD₅ loading of 31.8 kg for a maximum duration of 35 days. The report states that this establishes the maximum discharge volume during the fall as 44,520 m³.

The ministry provided calculations in an appendix to the report that they state show that the rated capacity of the NSL is sufficient, based on the design approach, the original design documentation, and the seasonal constraints.

Assessment of the NSL Design Criteria Against Current Ministry Standards

The ministry provides guidance for sewage management by means of a document entitled Design Guidelines for Sewage Works 2008 (the “Guidelines”). The Guidelines stipulate that seasonal discharge lagoons should meet the following minimum criteria:

- a surface area large enough to handle 22 kilograms BOD₅ per hectare per day (kg BOD₅/ha/day);
- minimum storage capacity capable of handling the largest number of consecutive days when effluent discharge is not allowed; and
- a maximum fall discharge rate to receiving water of 31.8 kg BOD₅ per day.

With respect to the first criterion, surface area, the ministry pointed out that based on typical raw sewage BOD₅ concentration of 200 mg/L and the design flow rate of 477 m³/day, the design BOD₅ loadings for the total system (area of 10.66 ha) is 8.95 kg BOD₅/ha/day, which easily meets the Guidelines. With respect to the second criterion, storage capacity for maximum periods without discharge, the ministry stated that the maximum period without discharge is 150 days and the volume of the facility allows for the acceptance of 477 m³/day for 300 days (total volume of 143,168 m³). According to the ministry, therefore, the system meets this criterion as well. Finally, with respect to the fall seasonal discharge constraint of 31.8 kg CBOD₅ per day and maximum discharge of 20 days, the ministry stated that with a maximum fall discharge of 25,440 m³ (calculated earlier), the maximum storage requirement over the winter would be 139,125 m³, which is below the total capacity of 143,168 m³ and therefore sufficient.

Assessment of Approach Assumed by the Applicants’

The ministry stated that the applicants’ assumed design approach – batch reactors operating in tandem (Figure B) – would meet the ministry’s CBOD₅ design surface loading criterion and the maximum seasonal storage requirement, but that it cannot be implemented because it would not meet the maximum fall season effluent CBOD₅ loading requirement of 31.8 kg/day. The ministry based this statement on its calculation of a maximum fall discharge of 25,440 m³. Since one complete cell (roughly half of the year’s total effluent, or more than 70,000 m³) would have to be discharged each fall under this approach, the ministry argued, this system would never be able to meet this fundamental constraint.

Assessment of the Approach to Design Capacity of a Similar Facility

For the purposes of comparison, the ministry identified another facility in the area and assessed its approach to design capacity. The St. Charles Sewage Lagoon Facility, located 30 kilometres (km) to the

north, was selected and a similar technical assessment was carried out for that lagoon system. The ministry indicated that the approach used for St. Charles was similar to the one used for the NSL facility and that the approach was sound.

Review of Ministry Guidance Document

The ministry pointed out that its Design Guidelines (2008) document, during its preparation, had been reviewed by various branches of the ministry as well as a large number of external stakeholders and reviewers. It identified Section 12.3.1.3 Seasonal Discharge as the component of the document that outlines the operation of facultative lagoons that are discharged seasonally. The ministry reviewed similar documents from a number of other North American jurisdictions and found no design, operational, or maintenance differences from the Ontario guidance.

Performance Assessment of the NSL Facility Between 2005-2010

The ministry acknowledged that the applicants provided data that identified some operational issues with the NSL facility. In April 2007, both lagoons were full and bypass events occurred. The ministry stated that this provides an indication that either the lagoons were not operated optimally that year or that there was high inflow and infiltration issues. During the fall of 2008, 38,996 m³ of effluent with an average CBOD₅ of 9.6 mg/L were released, resulting in a daily loading to the river of 53.5 kg CBOD₅, in excess of the maximum allowable discharge of 31.8 kg CBOD₅. The ministry acknowledged that this constituted a non-compliance with the facility's C of A.

The ministry stated that the facility met the effluent limits set by its C of A for the entire 2005-2010 period, with the exception of the emergency bypass in 2007 and the event noted above in the fall of 2008. The ministry noted that in the case of the latter event, both cells were discharged in the same season and one of the cells did not meet a specific limit; however, the average over both cells did meet the limit and the operators used *seasonal average concentration* to meet the C of A requirements. The ministry stated that it informed the operator after this event that if in the future both cells were to be released during the same season, the contents of each cell should comply with the limits.

In the case of the 2007 bypass event, where an emergency discharge led to the release of 300 m³ of sewage from the facility, the ministry noted that the effluent only exceeded one of the limits: that of TSS. Furthermore, the ministry stated, the operators took corrective actions to eliminate the possibility of a repeat occurrence.

Results of Sediment Sampling in Wolseley Bay

The ministry reported on the results of sediment sampling conducted by ministry staff in June 2009, in response to complaints received that discharges originating from the NSL facility were contaminating Wolseley Bay. The bay is about 13 km downstream of the facility. The samples were analyzed for nutrients and metals.

The ministry indicated that the samples did show both nutrient and metal levels above ministry standards, often by two or more times. For instance, two of the four samples had phosphorous levels that exceeded the Provincial Sediment Quality Severe Effects Levels (SEL) by over two times and manganese levels exceeded the SELs in two of the four samples, one by two times and the other by three times. These results indicate that the bay is at risk of increased growth of algae (phosphorous) and that some of the sediments are "grossly contaminated," limiting the types of organisms that can survive there.

However, despite these findings, in the opinion of the ministry's technical staff, "the NSL facility could not be isolated as the primary source of impaired water quality in the bay." This conclusion, they stated, was based on "the observation of the significant downstream distance of the bay from the NSL facility."

The Ministry's Conclusions

The ministry concluded firstly that the NSL facility is designed to operate as a continuous plug flow treatment system and that its rated capacity of 477 m³/day at 300 days HRT is a sound approach. It further stated that "the lagoons are expected to comply with current performance standards if operated accordingly."

The ministry's second conclusion was that the batch treatment approach assumed by the applicants, with a design capacity of 392 m³/day and 365 days HRT "is not feasible due to the maximum effluent CBOD₅ loading requirement of 31.8 kg/day during the fall discharge season."

Finally, the ministry stated that its assessment shows that there was no error in the design approach for the NSL facility, that the lagoons are not undersized, and that they meet all ministry design requirements.

The Ministry's Recommendations

The ministry acknowledged that the NSL facility has been in operation for more than 25 years. It committed to monitoring the ongoing operation and performance of the NSL facility to ensure compliance, and to following up with the municipality and the NSL facility operator to ensure that the improved operating practices already initiated are carried forward in 2011-2012.

Other Information

On July 15, 2011, the applicants sent a letter to the ministry and the ECO expressing disappointment with the outcome of the review. In this letter, the applicants asserted that the review itself had made several serious errors, including:

- Stating that the NSL facility operates as a "continuous plug flow reactor", when it is a seasonally discharged "waste stabilization pond," which is fundamentally different.
- Not recognizing that the approach used at the facility – continuous inflow to both lagoons with seasonal discharges – is in fact a type of batch system, not a continuous-flow system.
- Confusing the 300-day retention time in a waste stabilization pond with a 300-day HRT, which would only be the case in a continuous-flow system, leading to the incorrect use of the formula $HRT = V/ADF$ for calculating the hydraulic retention time – a concept that does not apply to the NSL facility.
- Stating that a batch-fed tandem system (which the applicants allege/assume the NSL is using) is based on a 365-day retention time, obviously again confusing the term "retention time" as it applies to stabilization lagoons with "hydraulic retention time" as it applies to continuous-flow systems.
- Rejecting the feasibility of the applicants' approach based on the calculation of maximum fall discharge of 25,440 m³, when the records show that the facility's fall discharges have exceeded 76,000 m³ for the last three years without CBOD₅ loading exceedances.
- Not taking into account the build-up of sludge on the bottoms of the cells, which according to the OCWA has already reduced the effective capacity of the lagoon system to just over 135,000 m³, approximately 400 m³ less than the required capacity of 139,125 m³ calculated by the ministry in the review report.

- Ignoring the water-sampling data submitted by the applicants, which shows spikes in phosphorous levels downstream of the NSL facility following discharge events.

On November 1, 2011, the ministry replied to the applicants' post-review correspondence. This letter basically re-iterated the ministry's position that the approach that it is using is correct. It referred to Chapters 2 and 3 of the United States Environmental Protection Agency (US EPA) document entitled "Design Manual: Municipal Wastewater Stabilization Ponds" and Section 12.3 – Sewage Treatment Lagoons in MOE's Design Guidelines for Sewage Works 2008. It summarized by stating that "...the *EBR* (*Environmental Bill of Rights*, 1993) review was carried out by an independent team of technical staff and has addressed in detail all the concerns and issues set out in the *EBR* application." It then states that the "...design of the facility was based on the 'ideal plug flow model' and not designed for, or intended to operate in, a batch mode." Therefore, the letter states, "...there is no error in the design approach used for the NSL facility."

The summary goes on to point out that the facility is in compliance with its regulatory requirements and that there is no evidence that it is causing adverse impacts on the environment. Finally, it states that the approach used at the NSL facility is similar to the ones used in many other North American jurisdictions, "...including the US EPA."

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Analysis and Discussion

Due to the highly technical nature of this application, as well as the relative importance of the potential implications identified by the applicants, the ECO contracted an independent sewage-system expert to provide technical analysis and advice. The expert reviewed all of the documentation available to the ECO; the resulting report informed the ECO analysis that follows.

Upon reviewing the application, the ministry's response, and the independent expert's report, the ECO found many errors and inconsistencies in the ministry's *EBR* review. The following discussion focuses on those that appear to be most significant with respect to the issues raised by the applicants.

It should also be noted that, although MOE claims that the NSL is designed and operated as in Figure C (parallel), the applicants, who live in the area, insist that the system is actually operated as in Figure B (tandem). This view would seem to be supported by the ministry's own advice to the operators, following the 2008 fall discharge limit exceedance. The ministry stated that "The facility operators were informed that in future, if both cells are discharging during a seasonal event, the contents of both cells should comply with the effluent limits..." In fact, if the system operates in parallel, as the ministry has stated, full spring discharge from both cells would be the standard, not just a possibility, making the ministry's wording in its warning inappropriate. Finally, the release data provided from the Ontario Clean Water Agency appears to support the applicants' position.

The Ministry's Assessment of MOE's Approach to Confirm the Design Capacity

The ECO found a number of significant errors in MOE's assessment of the approach to confirm design capacity. The main error appears to have arisen from a misunderstanding on the part of the ministry with regard to the nature and use of the "plug flow" model. The ministry claims that this model is promoted by the US EPA for this type of system (see Other Information, above). This is correct, but only in part.

Firstly, the plug-flow model refers to a method of predicting final effluent quality, based on the mixing regime within a lagoon system; it does *not* establish a new or different type of operational system. The plug-flow model promoted by the US EPA was developed for continuous-flow systems with at least three lagoons in series, so that two or more cells are constant-volume continuous-flow systems (Figure A). Although the NSL facility is operated under a continuous inflow, variable volume, intermittent discharge process, known as a fed-batch system (Figures B and C), the mixing regime (general movement of particles in and through the system) is similar to that in continuous systems. Thus, both types of systems

can be considered to be plug-flow reactors and the model can be used in both cases as a method for determining the retention time necessary for the required level of degradation to occur (i.e., the required HRT). In other words, the plug-flow reactor model is not an alternative approach to designing and/or operating sewage lagoons, as suggested by the ministry; rather, it is a mixing and flow model that provides a method applicable to both continuous-flow and fed-batch systems for determining how long sewage must be retained in the system to meet effluent standards.

The model's applicability to both systems for that purpose, however, does not mean that the required HRT can just be plugged into the formula ($V = \text{HRT} \times \text{ADF}$) to calculate whether or not the capacity of the NSL system meets the HRT requirements (i.e., to determine whether the system is large enough to hold the material long enough). This is because the NSL facility is *not* a continuous-flow system. The mixing regimes may be similar, but the systems operate differently with respect to holding and releasing effluent. As a result, the relationship between the total volume of the system and the HRT is completely different.

As discussed above in the 'Background' section, the HRT in a continuous system is constant, as each particle takes about the same amount of time, on average, to pass through the system, which is always full. The $V = \text{HRT} \times \text{ADF}$ formula is standard for constant-volume systems, where the input flow is always equal to the output flow.

The HRT in a fed-batch system, however, is variable because the amount of sewage in the cell is variable; it increases as it fills, and decreases as the effluent is released. The full potential volume of the system is not used all of the time. A particle that enters at the beginning of the filling process remains in the system until the effluent is released, while a particle that enters at the end of the filling process is only in the system as long as the material is held without release, which in the scenario proposed by the ministry could be as little as a few days. In this regard, therefore, the applicants are correct: the estimated system HRT for fed-batch operations (such as the NSL facility) is calculated by adding one-half the filling time to the holding time. This accurately accounts for the variations in volume caused by the seasonal release pattern.

To return to the example of the bathtub used earlier (see page 144): in a continuous-flow system (Figure A), if the volume of water in the full tub is 100 litres and the inflow and outflow rates are 10 litres per minute, the average drop of water will remain in the tub for 10 minutes ($V/\text{Flow Rate}$) and 600 litres could be put through the system in an hour (10 litres times 60 minutes). If there were a rule requiring a 10-minute retention time, such a system would perfectly meet it. Now imagine the same tub starting off empty and filling at a rate of 10 litres per minute, with the drain closed (the fed-batch system, Figure B). The tub will fill in 10 minutes. However, as discussed earlier, the average retention time will be only 5 minutes (half the filling time); to get the same average 10-minute retention time with this system as with the continuous-flow system, the full tub of water would have to be held an additional 5 minutes, with no additional inflow, before releasing. Therefore, in an hour only 400 litres could be put through the system while meeting the 10-minute HRT rule. Moreover, it follows that if one were attempting to put 600 litres through the same tub in an hour using a fill and release (fed-batch) system, in order to match the volume that the continuous system can put through, the water would have to be released immediately after filling, with no holding time (Figure C). This would reduce the average HRT to 5 minutes, which would no longer meet the 10-minute HRT requirement. This example clearly illustrates how increasing the flow of sewage through a "fill and release" system of constant volume can only be done by reducing system HRT.

If the NSL facility is operated as the applicants maintain, as a fed-batch system operated in tandem (see Figure B), then the average HRT can be estimated as 150 days (the holding time) plus 90 days (one-half the filling time), for a total of 240 days. This is generally considered to be enough biological treatment time to achieve the required water-quality limits in these types of systems in temperate climates.

If the facility is indeed operating as MOE maintains, which the ECO is calling a fed-batch system operated in parallel (Figure C), then the HRT will vary for different seasons and releases. For instance, some considerable portion of the sewage that enters the cells in the summer, after the cells are emptied in the spring, will be released in the fall, without any holding period – only filling time. The estimated average HRT for that effluent would be one-half the five-month filling time, or 75 days (some of the sewage would

only be in the system for a fraction of that time). Similarly, sewage that enters the cells after the fall discharge and is emptied in the spring (about half the total volume) will also have an estimated average 75-day HRT. Only the material that enters in the late summer and fall and is not released with the partial fall discharge would have an estimated average HRT of more than 75 days, and the maximum HRT for this component of the effluent (which could be a very small percentage of the total if the fall release is large) would be the 240 days that would be achieved by *all* of the effluent in the tandem system.

The US EPA Design Guide confirms that systems designed for long retention times of 300 days or more (undeniably an adequate HRT for such systems), which find it necessary to discharge at shorter intervals (which is certainly the case with seasonal-discharge systems), *must use the plug-flow (or an equivalent) model to determine whether or not the desired effluent quality can be met.* To do this, the estimated shorter HRT values must be used. At no point in its review did MOE indicate that the plug-flow model had been used to verify that the required effluent limits could be met with such short HRTs as would be experienced if the two cells were operated in parallel.

It is certainly true that operating the two cells in parallel would provide much more potential capacity, in terms of the physical space available over the course of a year, than operating them in tandem. With the tandem system, the annual potential capacity is equal to the total volume of the two cells (as pointed out correctly by the applicants); with the parallel system, the potential capacity is equal to the total volume of the two cells plus the volume of effluent released in the fall discharge, which could theoretically be as much as the entire contents of both cells (if all limits and the fall discharge constraint have been met), effectively up to doubling the system's annual potential capacity to hold sewage. It is this fact that allows the ministry to claim that the rated capacity of 477 m³/day can be handled by the system.

However, as illustrated in the bathtub example above, the cost of increased throughput is reduced HRT and thus reduced time for the biological treatment. Putting more sewage through the same system (with no actual increase in the physical space available) over the same time period (one year) can only be done by reducing the time that the average particle stays in the system. The ministry has ignored this basic fact.

If in reality the system is being operated as MOE claims, it is up to the ministry to demonstrate that the effluent limits set in the C of A can be met with such low average HRTs. Instead, it continues to insist that the actual system HRT is 300 days, a figure calculated using the formula ($HRT = V / ADF$) that describes the HRT-capacity relationship only in continuous-flow systems. For this type of variable-volume system, that formula does not apply and an average 300-day system HRT, calculated on an annual basis for the given rated capacity, is simply not possible.

The Ministry's Assessment of the Applicants' Assumed Approach

The ministry pointed out in its review that the tandem approach assumed by the applicants is not feasible given the fall discharge constraints. It provided a calculation to demonstrate the point. The ministry stated that: "at the CBOD₅ effluent limits of 25 mg/L, the maximum daily discharge rate during fall events is: (31.8 kg/day)/(25 mg/L) = 1,272 m³/day and the maximum daily discharge volume during fall is: 1272 m³/day*35 days = 44,520 m³." Since one cell has an approximate volume of 65,000 m³ and the other has a volume of about 78,000 m³ – both considerably larger than 44,520 m³ – the ministry argued that neither cell could ever be fully discharged in the fall, making the tandem system unworkable.

The ministry's interpretation of the potential discharge calculation, however, is incorrect. The formula in fact generates a *minimum* discharge amount, not a maximum. As the CBOD₅ drops from the 25 mg/L C of A limit, which the ministry used in the equation as the maximum allowable concentration that would allow effluent release, the denominator becomes smaller and the end result of the calculation becomes larger – the allowable discharge *increases*, not decreases. In very basic terms, as pollution levels in the cell drop (due to the biological processes at work), the amount of effluent that can be safely released increases, because the effluent is cleaner and the limits are based on total loadings, not concentrations. In the case of a single cell operating in a tandem system, if it achieves a CBOD₅ of 5 mg/L (which is quite easily done with 240 days retention time), the allowable discharge in the fall would be five times the figure

calculated by the ministry, or 222,600 m³ of effluent, which exceeds the volume of both cells and would easily allow for the full discharge of one cell in the fall.

Therefore, the ministry's assertion that the fed-batch tandem system assumed by the applicants cannot be implemented is totally incorrect.

Other Concerns Regarding System Capacity

The ministry states that its own design guidelines require that "the required hydraulic retention time should be determined using the volume between 0.6 m (2 ft.) (recommended minimum operating depth) and the maximum operating depth of the entire lagoon system and the design average daily flow." This means that the cells should never be completely emptied and that the effective volume of each cell is considerably less than the total volume. For instance, the C of A states that Cell #1 has a surface area of 4.84 hectares, a liquid depth of 1.5 metres, and a volume of 64,994 m³. However, if 0.6 m is subtracted, the effective depth of the cell is 0.9 m, which makes the effective volume 43,560 m³. Similarly, the C of A states that the volume of Cell #2 is 78,174 m³, while subtracting 0.6 m from the depth of that cell results in an effective volume of 52,380 m³. For the entire system, it therefore appears as though the effective volume is actually 95,940 m³, only 67 per cent of the 143,168 m³ stated in the C of A.

Calculations of the effective volume do not appear anywhere in the ministry's review. If in fact the figure of 143,168 m³ does represent the effective volume of the system, the ministry should have stated so and provided the necessary calculations. It did not, so the ECO has to assume that the effective volume of the NSL facility is the lesser figure. If the system is operated as a tandem system (which the ECO feels is the only system viable for the NSL facility, at least until such time as the ministry demonstrates that the parallel system can achieve the required effluent quality in terms of CBOD₅), the rated ADF should be even less than the 392 m³/day calculated by the applicants, perhaps in the area of 250-270 m³/day.

Other problems identified by the ECO include (but are not limited to) the following:

- Net precipitation/evaporation: At one point in its review the ministry stated that precipitation and evaporation should be taken into consideration; at another point, it stated that these factors are generally considered to cancel each other out in Ontario (which is the position noted in the Ontario Guidelines). The applicants presented evidence that precipitation gains exceed evaporation losses in that part of the province and that this factor could further reduce capacity by up to 20 percent. Therefore, the applicants maintained that the rated daily flow should be adjusted accordingly. The ECO agrees; not doing so is in sharp contrast with many other North American jurisdictions.
- The strength of the septage (human waste collected from septic tanks, rather than transported through the sewage pipe network) added to the lagoon system: In addition to the regular sewage flow, the NSL facility accepts an estimated 6,700 m³ of septage waste each year. This material is up to 100 times higher in CBOD₅ than regular sewage (it is much more concentrated) and calculations regarding its impact should have been taken into account. There was no indication in the report that the ministry had done so.

Although the system has performed reasonably well over the past five years – with a few exceptions (see Performance Assessment of the NSL Facility between 2005-2010, under Ministry Response) – the ECO feels that this may be due more to good luck than to good planning. The operators recently installed a flow meter at the facility (previous flows had been estimated, based on pump usage) that indicates that previous reports of sewage flows had been over-estimated by about 20 per cent. So the actual flows may have been well below the rated ADF.

In addition, the 2010 engineering study indicated that there was significant infiltration of water in the sewage collection lines. This might have watered down the sewage, creating potential capacity issues but reducing parameters such as CBOD₅ and phosphorus through simple dilution.

ECO Comment

The ECO disagrees strongly with MOE's findings as a result of this EBR review. Moreover, the ECO is extremely concerned that not only the NSL facility, but perhaps many other facultative sewage lagoons in rural Ontario, may have been issued Cs of A by the ministry that significantly overrate their true capacity. MOE cannot solve an issue of lack of capacity in a facility by simply giving the system a different and misleading name – plug-flow reactor – and asserting that it has a different (and unproven) method of operation, while at the same time erroneously implying that flow-through in a fixed-volume system can be increased without sacrificing retention time and effluent quality. If this approach is indeed widespread in Ontario, it could result in a rash of water-quality issues in coming years as smaller municipalities seek and accept new residential development, under the incorrect assumption that their sewage treatment capacity is sufficient to handle more volume.

In addition, the quality of MOE's review was startlingly poor. It included inconsistencies, omissions of key concepts, errors in very basic mathematics, and, most disturbingly, an apparent lack of understanding of the basic concept – the plug-flow model – that formed the basis for its entire argument. Moreover, the ministry's decision not to further investigate the applicants' concerns about downstream water and sediment quality showed a worrisome lack of judgment. The ministry has a core duty to the public to assess the impact of the lagoon system on the receiving waters and the results of the sampling in Wolseley Bay definitely warranted further investigation. A full blown receiver assimilative capacity assessment should have been at least considered, in order to determine whether or not the NSL facility was making a substantial contribution to the undeniable downstream environmental impacts.

The ECO suggests that the ministry immediately undertake a proper reworking of this review. Moreover, for this new attempt, MOE should ensure the assignment of appropriate resources. This area of the ministry's responsibility is much too important to be left in the confused state that this *EBR* review suggests may be the current case.

Review of Application R2010009:

2.1.7 Review of the *Environmental Bill of Rights*, 1993 (Review Undertaken by MOE)

Keywords: *EBR*; legislation; review; reform

Background

In December 2010, the ECO received an application from two staff members of the Canadian Environmental Law Association requesting a review of the *Environmental Bill of Rights*, 1993 (*EBR*) and its regulations.

Since the *EBR* came into force in 1994, it has never undergone any formal review. Despite the identification of shortcomings in the legislation over the years and changes to societal values and environmental priorities, the statute has remained largely unchanged. The applicants urged the Ministry of the Environment (MOE) to undertake a formal public review of the *EBR* to solicit input on key changes to the current *EBR* regime and better achieve the broad purposes of the legislation.

The applicants identified ten key issues, listed below, that should be formally reviewed by MOE in an open and public review of the *EBR*:

1. Updating the purposes of the *EBR*;
2. The lack of environmental rights in the *EBR*;
3. Complying with meaningful Statements of Environmental Values;
4. Use, misuse and avoidance of the Environmental Registry;
5. Fixing the “EA Exception” under section 32 of the *EBR*;
6. Revisiting the leave test and funding for third-party appeals;
7. Enhancing the powers of the ECO;
8. Prescribing additional ministries and statutes under the *EBR*;
9. Improving responses to applications for reviews and investigations; and
10. Facilitating access to environmental justice.

The applicants stressed that this list is not exhaustive, but merely the “Top 10” issues that are “illustrative of the types of systemic problems which require consideration within the requested review.” For each issue, the applicants described their concerns and suggested potential reforms to address them.

The ECO forwarded the application to MOE.

Ministry Response

On March 1, 2011, MOE advised the applicants that it had concluded that the requested review was warranted. MOE agreed with the applicants that “the *EBR* is generally sound and it would not be appropriate to conduct a wholesale reconsideration of the Act in its entirety,” and stated that “the Ministry’s review will examine certain components of the *EBR*, as determined necessary by the Ministry after further deliberation and references to some of the matters raised in your application.”

In its preliminary decision letter, MOE did not provide an estimated time for completion of its review. However, in August 2011, MOE advised a different set of applicants who had submitted an application regarding *EBR* leave to appeal rights that the ministry would be incorporating its review of *EBR* leave to appeal rights into the ministry’s broader review of the *EBR*. MOE stated that it anticipated that the review would take 12 – 16 months to complete from that date. For more information on the related review, see R2009016 in Section 2.1.5 of this Supplement.

ECO Comment

The ECO will review the handling of this application in a future Annual Report, once the ministry has completed its review.

Review of Application R2010016:

2.1.8 Ontario Regulation 232/98 and Landfill Standards Guidelines (Review Denied by MOE)

Keywords: Landfill; seismic; earthquake; leachate; hydrogeological

Background

Overview

On February 5, 2011, two individuals filed an application requesting a review of O. Reg. 232/98 (Landfilling Sites) under the *Environmental Protection Act (EPA)*, as well as the associated guidance document *Landfill Standards: A Guideline on the Regulatory and Approval Requirements for New or Expanding Landfilling Sites* (the “Landfill Standards guide”). The applicants claimed that the regulation and Landfill Standards guide fail to adequately address two major issues: the timeframe involved in managing landfills; and the risk associated with the potential impact of seismic activity on these facilities. The ECO forwarded this application to the Ministry of the Environment (MOE).

Background on Seismic Issues

Natural Resources Canada (NRC) classifies southern Ontario as having a low to moderate level of seismicity and the Ottawa Valley having a slightly higher level, but still moderate. A magnitude 5.0 earthquake occurred near Ottawa in 2010. However, the most current research suggests that an earthquake as large as magnitude 7 is possible in Ontario, with an estimated frequency of about 1 every 3,000 years. Such an event could happen at any time between now and several thousand years from now, since probability informs us of the likely frequency of an occurrence, but not of its actual timing. A magnitude 7 earthquake is considered major, with the possibility of serious damage, the extent of which depends on several factors. For instance, earthquakes cause more damage in areas underlain by sand or clay than in those underlain by bedrock. Distance from the epicentre is also a major factor. In addition, some geologists think that the St. Lawrence Rift, which has caused magnitude 7 earthquakes in Quebec, might actually extend as far as the southern parts of the province, running under Lake Ontario. If this turns out to be the case, the risk of a major earthquake would increase significantly.

Definitions

Seismic: Relating to an earthquake or to other tremors of the Earth, such as those caused by large explosions.

Seismicity: The frequency or magnitude of earthquake activity in a given area.

Seismology: The geophysical science of earthquakes and the mechanical properties of the earth.

Seismological: Of or concerned with seismology.

Hydrogeology: The branch of geology that deals with the occurrence, distribution, and effect of ground water.

Geotechnical: Relating to the application of technology to engineering problems caused by geological factors.

Current Landfill Standards Relating to Seismicity

Part III, Section 6(2)(c)(iv) and (v) of O. Reg. 232/98 relating to Design Specifications, requires proponents of new or expanding landfills greater than 40,000 cubic metres in volume to produce a written report describing the design of the facility, including:

“a hydrogeological assessment of the suitability of the site for the landfilling of municipal waste that considers the geologic and hydrogeologic conditions of the site, the design of the site and the monitoring and contingency plans;” and

“a geotechnical assessment of the suitability of the site for the landfilling of municipal waste that considers bearing capacity, differential settlement and slope stability during construction, operation, and after closure, and that addresses the potential effects on any liner or leachate collection system.”

Furthermore, in Section 8(1), relating to Hydrogeological Assessment, O. Reg. 232/98 states:

“A person shall not establish a new landfilling site or increase the total waste disposal volume of an existing landfilling site unless a written report on the geologic and hydrogeologic conditions of the site and ground water protection for the site has been prepared in accordance with this section;”

And Section 8(2) states:

“The report must contain (a) plans, specifications and descriptions of the geologic and hydrogeologic conditions of the site and the area in which the site is located; and (b) an assessment of the suitability of the site for the landfilling of municipal waste, taking into account ... (ii) regional site-specific geologic and hydrogeologic conditions... .”

In addition, the Landfill Standards guide, Section 4.3, states:

“An assessment of the hydrogeologic setting of a landfilling site is necessary to properly design the site, and to ensure the site can be effectively monitored and an acceptable contingency plan can be developed. [Ontario] Regulation 232/98 includes a basic requirement that the geologic and hydrogeologic conditions of the landfilling site be assessed. The regulatory requirement is included in Subsection 4.3.1 of this Guideline. A more detailed description of the type of information typically included in the assessment, the kinds of analyses which are typically undertaken, and the issues typically addressed is included in the approval guidelines given in Subsection 4.3.2. The approval guidelines address both the regional area in which the site is located, and the detailed study of site conditions.”

Summary of Issues

The applicants' main concerns regarding the regulation of landfills had to do with timeframe and seismicity. With regard to the former, the applicants pointed out that the toxicity levels of many of the materials in landfills, unlike nuclear waste, do not decrease unless there is leakage, microbial action, dilution, or waste removal, and that these factors are usually absent. The applicants asserted that requiring proponents to manage these sites indefinitely is unreasonable. Therefore, unless the required design of landfills is changed to ensure a “passive, long-term solution” (again, such as nuclear waste, which is buried deeper than 500 metres), current and future generations are being asked to assume an ongoing, permanent risk.

With regard to the risk from potential seismic activity, the applicants argued that current requirements to consider the geologic conditions of the site do not take into account the fact that earthquakes occurring at a considerable distance from the landfill can still have a serious impact. Moreover, there is currently no requirement to identify and evaluate the geological features that could provide important information on the frequency of previous earthquakes at a particular site. Nor is there any requirement for proponents to do more than provide an overview of existing published and unpublished scientific literature in order to assess seismological risk. They claim that experience has shown that geological investigations must be tailored to the question of seismological risk if they are to be useful and most existing literature does not meet that necessary criterion.

The applicants further argued that seismological risk substantially increases when considered in the context of an unlimited timeframe. Proponents are only required to assess current hydrogeological conditions at a site, yet these conditions can change over time (with one potential cause being a seismic event), while the toxicity of a landfill's contents remains the same. The applicants stated that in the current regulation, there is little or no requirement to consider the ways in which landfill liners deteriorate over time or are compromised by seismic events and other long-term changes in the initial geologic conditions. Therefore, the applicants maintain, the current regulation and guidelines are insufficient to protect future generations. To illustrate, the applicants listed the specific elements of the regulation and Landfill Standards guide that deal with hydrogeological and geotechnical assessment requirements and pointed out the vagueness of the language and the generalized statements that they believe allow too much leeway.

The applicants also included an appendix describing their suggested framework for geological assessment requirements. These included methods to be used for:

1. Site definition and characterization, along with the establishment of the timeframe anticipated for the functionality of the facility;
2. Investigating the host rock and surrounding rocks, including overlying and underlying rock units – a task that must include drilling and coring;
3. Defining fracture networks and hydrogeology, in order to understand how aquifers would be affected in the case of future damage to the liner; and
4. Assessing tectonic stresses, deformation and seismicity, in order to be able to estimate the probability of occurrence of earthquakes of magnitudes equal to or greater than 5 within the proposed lifetime of the facility.

Ministry Response

MOE denied the application for review in a letter to the applicants dated April 21, 2011. The principal reasons provided were that: current requirements and procedures allow for site-specific concerns, which could include seismological conditions, to be considered in the approval process under the *EPA* and the *Environmental Assessment Act (EAA)*; applications under the *EAA* require proponents to identify the types of studies that it proposes to conduct, after which comments and concerns raised regarding these choices are considered by the ministry as part of the process; and, the ministry has the authority to require such studies if they are deemed necessary. As an example of how the current system does work, MOE stated that the proponent of a proposed landfill in Russell Township (Ottawa area) has indicated that it will be assessing seismic effects, including distance to faults and potential shaking impacts on the facility.

In addition, the ministry pointed out that its Statement of Environmental Values (SEV) had been considered when the regulation and Landfill Standards guide were developed and that although the technical components of the regulation and Landfill Standards guide had not been updated since 1998, they are considered state-of-the-art as compared to other jurisdictions, such as those of the United States *Environmental Protection Act*.

Finally, MOE stated that earthquakes are considered to be a low risk in Ontario. For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO disagrees with MOE's decision to deny a review of O. Reg. 232/98 and the Landfill Standards guide. The technical components of the regulation and guideline are not subject to periodic review and have not been updated since 1998. Fourteen years is a long period between reviews in a rapidly evolving field like waste management.

The risk of an earthquake in Ontario that is large enough to cause a release of toxic leachate into the environment from a landfill may be close to zero over a short time frame (years), but may be significantly larger in a multi-generational timeframe. Seismic risks notwithstanding, the applicants' point with respect to the long-term liability represented by modern lined landfills is valid and of great concern to the ECO. Liners do not last forever and, as the applicants point out, the toxicity levels in contained landfills can remain substantially unchanged for centuries. This is an unacceptable legacy to leave for future generations.

Adopting expensive additional protection measures to address the long-term risks of landfills, however, is not the most cost-effective nor the most environmentally preferable remedy. Risk could be significantly reduced and eventually eliminated by implementing a gradual, phased-in ban (starting with new and expanding sites) of the two groups of wastes that cause the most problem in landfills: municipal hazardous and special wastes (MHSW) and organic residuals. The former provides many of the toxic

elements in landfill; the latter is the primary source of leachate. For example, future landfills that contain no food-processing wastes, residential food wastes, yard wastes, batteries, paints, paper, cardboard, electronics or pharmaceuticals, etc. would generate much less toxic leachate, few if any odours, and minimal (if any) methane, a potent greenhouse gas. Other jurisdictions have banned these wastes; Ontario should not continue to accept the burial of materials that are not only valuable resources (turning organic residuals into compost provides many benefits, for instance – see the ECO's 2009/2010 Annual Report, pages 135-141), but that also create the kinds of conditions in landfills that pass on unwarranted risks to future generations.

As the ECO pointed out in our 2010/2011 Annual Report (pages 91-97), “[f]or decades, MOE has continued to propose progressive and potentially effective solutions to improve waste reduction and diversion..... as early as 1991, MOE was considering banning recyclable materials from landfill.” Despite the good ideas, little has been done. The denial of this application, which might have provided a spark for change, strikes the ECO as just another such opportunity wasted.

Review of Application R2010017:

2.1.9 Application of the *Public Sector Salary Disclosure Act, 1996* and the *French Language Services Act* to the ECO (Review Denied by MOE)

Keywords: *Environmental Bill of Rights, 1993*; *Public Sector Salary Disclosure Act, 1996*; *French Language Services Act*; Environmental Commissioner of Ontario

Background/Summary of Issues

On March 14, 2011, two Ontario residents submitted an application requesting a review of the *Environmental Bill of Rights, 1993* (EBR) to clarify how the *Public Sector Salary Disclosure Act, 1996* (PSSDA) and the *French Language Services Act* (FLSA) apply to the ECO.

The PSSDA requires public sector employers to publicly disclose the salary and benefits paid to any employees who receive an annual salary of \$100,000 or more. The applicants stated that information required under the PSSDA has not been included in the ECO's Annual Reports for a number of years, and asserted that this shows disrespect for the Legislature, the public and the media. The applicants noted that the PSSDA does not exempt the ECO.

The FLSA recognizes that “it is desirable to guarantee the use of the French language in institutions of the Legislature and the Government of Ontario,” and sets out provisions for the delivery of government services in French and the translation of statutes and regulations into French. The applicants asserted that the ECO is “failing in its obligations on French translation,” stating that “dozens, perhaps hundreds” of ECO publications on the ECO website have not been translated from English to French, including Supplements to the ECO's Annual Reports. The applicants argued that this important material should be translated. The applicants asked the Ministry of the Environment (MOE) to comment on whether the ECO is complying with the FLSA.

The applicants requested that the EBR be amended to: a) expressly state that the PSSDA applies to the ECO; and b) indicate how the FLSA applies to the ECO.

To support their application, the applicants submitted, among other things, excerpts of the PSSDA and FLSA, copies of the ECO's financial statements from past Annual Reports, and copies of several pages from the French publications section of the ECO's website.

Ministry Response

In May 2011, MOE denied this application. Based on the ministry's preliminary consideration of the application under section 67 of the *EBR*, it decided that the public interest did not warrant the requested review.

In particular, MOE noted that the requested review was administrative and financial in nature, and that there was no evidence of potential environmental harm if the review was not undertaken.

MOE also stated that there are already legislative requirements in the *PSSDA* that address the applicants' salary reporting concerns (under the *PSSDA*, employers are not required to include salary disclosure in their annual reports, provided it is made on a public website). Like other public sector organizations, ECO salary disclosure is made annually on the Ministry of Finance's website.

In regard to the applicants' concerns about the French translation of ECO publications, the ministry stated that the ECO is responsible for determining which of its documents require translation in order to meet *FLSA* requirements, and noted that the ECO does translate publications including Annual Reports and Special Reports. The ministry pointed out that the applicants can direct any concerns about the ECO's compliance with the *FLSA* to Ontario's French Language Services Commissioner, who is responsible for ensuring compliance with the *FLSA* and for reviewing complaints about compliance. MOE provided the French Language Services Commissioner's contact information, as well as a link to his website, to the applicants.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The issues the applicants raise relate directly to the ECO's own practices; however the ECO still has a statutory mandate to "review the receipt, handling and disposition of applications for review" made under the *EBR*. This mandate entails reviewing MOE's compliance with *EBR* requirements in its treatment of applications. In that respect, the ECO concludes that MOE's decision not to undertake a review in this case was appropriate.

Section 67 of the *EBR* states that in determining whether the public interest warrants a review, a minister shall consider "the potential for harm to the environment if the review applied for is not undertaken." MOE specifically observed that, in the case of this application, there was no evidence of potential harm to the environment if the requested review was not undertaken, as it was administrative and financial in nature. The *EBR* also permits a minister to consider "any other matter that the minister considers relevant"; in that regard, MOE's observation that existing legislative provisions in the *PSSDA* and *FLSA* address the issues raised by the applicants was sensible. In light of the foregoing, MOE's decision to deny the application was consistent with the provisions of the *EBR*.

The ECO commends MOE for informing the applicants of the French Language Services Commissioner's role and for providing contact details for that Commissioner's office. The French Language Services Commissioner would be the appropriate venue to voice any concerns about translation of ECO documents.

Review of Application R2010019:**2.1.10 Policies for the Cage Issuance of Aquaculture Licenses
(Review Denied by MNR and MOE)**

This application was reviewed in conjunction with R2010018 (MNR). Please see Section 2.3.1 of this Supplement for the full review.

Review of Application R2011002:**2.1.11 MOE Order Issued to a Chemical Manufacturing Company
(Review Denied by MOE)**

Geographic Area: Elmira, Regional Municipality of Waterloo

Keywords: public liaison committee

Background/Summary of Issues

In June 2011, two applicants submitted an *Environmental Bill of Rights, 1993 (EBR)* application requesting a review of an Order issued to Uniroyal Chemical Co. (now Chemtura Canada Co./Cie, "Chemtura") in Elmira. The Order was issued by the Ministry of the Environment (MOE) in 2000, amending an earlier order from 1991; it required the company to address water and soil contamination issues on and around its site. The applicants contended that because the Order did not require the company to establish a public liaison committee, the local community has had no effective mechanism to monitor or promote the company's compliance with it. As a result, the applicants maintained that progress in the cleanup of the site has been unsatisfactory, and buried contaminants continue to pollute soil and water resources. The applicants requested that MOE amend the Order to require Chemtura to establish a formal public liaison committee. The ECO forward this application for review to MOE.

Site History

The Chemtura property in Elmira has been used for chemical manufacturing since 1941. A wide range of organic chemicals for the agricultural, rubber and plastic industries has been produced on the site. The Canagagigue Creek, which is part of the Grand River system, runs through the middle of the property.

Until 1964, the company disposed of industrial wastes by lagooning or burying them in unlined pits, which eventually discharged liquid wastes to Canagagigue Creek. In the same year, the Town of Elmira, the Ontario Water Resources Commission and the company itself funded the construction of a sewage treatment plant to receive both municipal and industrial wastes. The sewage treatment plant discharges downstream to Canagagigue Creek and to the Grand River. By 1969, the company took all unlined pits out of service after transferring existing wastes to two plastic-lined ones. The company also lined ponds on the property with compacted clay and used them to treat wastewater until 1986. According to MOE, by 1989 all ponds but one had been cleaned out.

MOE Orders

In 1989, several municipal and private wells in Elmira were discovered to be contaminated with a N-nitrosodimethylamine (NDMA). NDMA causes cancer in animals and possibly humans. Subsequent sampling of the sewage treatment plant effluent determined that the contamination of the wells with NDMA and other organic compounds originated from the property of the chemical company. MOE determined that discharges from the company caused or were likely to cause an adverse effect and issued a series of Orders under the *Environmental Protection Act* requiring the company to take measures to address the issue.

The 1991 Order required the company to establish an on-site sewage works to collect and treat contaminated groundwater from beneath the property and prevent its migration offsite. One of the requirements of the 2000 Amending Order was that the company submit a report identifying the best method for containing the contaminated water beneath the company's property and for cleaning up the off-property municipal aquifer beneath Elmira by 2028 to standards that meet the Ontario Drinking Water Objectives, as amended.

EBR Application

In 1992, at the request of MOE, the local Township of Woolwich Council established the Chemtura Public Advisory Committee (CPAC) to provide public feedback and advice on the remediation of the site. However, the applicants argued that this committee was highly politicized and not effective. The applicants submitted a series of local newspaper articles published in the first half of 2011 reporting on the perceived divisions in CPAC.

In April 2011, the local Council updated the committee's Terms of Reference (ToR). The purposes of the committee are, among others: to provide a forum for MOE and Chemtura to present information, proposals and updates on the status of environmental issues on the site; to provide a forum for MOE to conduct public consultation; and to make recommendations to MOE and Chemtura on behalf of the community.

The applicants were unsatisfied with the manner in which the new local Council updated the ToR of the committee. According to the submitted media articles, almost all the former CPAC members left the committee, because Council inadequately consulted with them before updating the committee's ToR. The applicants stated that the "new Terms of Reference are grossly undemocratic and have insured [sic] that the current Chemtura Public Advisory Committee is merely a puppet of Council." The newspaper articles also identified the lack of progress with respect to the formation of the new CPAC and the delays in conducting meetings; the committee had not been active for a number of months before the summer of 2011. The applicants concluded that the citizens of Elmira needed an independent committee to speak for them in regards to a real cleanup of the Chemtura site.

CPAC and ERT Ruling

This was not the first time that the contribution of CPAC to remediation efforts of the Chemtura site had been disputed. In 2007, leave to appeal a Chemtura certificate of approval (C of A) for an industrial sewage works was sought, partly on the grounds that MOE had demonstrated a lack of commitment to public consultation and had acted inappropriately in obtaining approval from CPAC. The Environmental Review Tribunal (ERT) dismissed the application, finding that there had been a high level of meaningful consultation in regards to the disputed conditions of the 2007 C of A despite a division among the CPAC members.

Ministry Response

In July 2011, MOE denied the application for review. The ministry stated that a review was not warranted because there has been ongoing cooperation among the ministry, the company and the local community

through CPAC to remediate the site since 1992, when the local Council established the public advisory committee at MOE's request.

MOE also stated that the ministry has no specific policy to legally require a public liaison committee as part of an Order. MOE added that there was no need to include the requirement for a public liaison committee in the 1991 or 2000 Orders.

The ministry also explained that the 2000 Order had been posted on the Environmental Registry but neither of the comments it received referred to public consultation or a public liaison committee.

In addition, the ministry stated that CPAC is a committee of the Township of Woolwich Council, whose members are elected representatives of the township and CPAC members are selected from citizens who have applied for membership. MOE added that CPAC, as all township committees, is expected to operate in accordance with the *Municipal Act, 2001*. CPAC is bound by Terms of Reference developed and reviewed by Council every four years, MOE also stated.

Lastly, MOE stated that the former members of CPAC had been accepted by Chemtura and formed a company-funded public liaison committee, thus providing a second way of public engagement in the remediation of the site.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO comment

MOE's decision to deny the application for review appears reasonable.

Although MOE does not typically require proponents to form public advisory committees, MOE does, from time to time, require a company to establish and fund a public liaison committee, and draft its Terms of Reference. Some other times, the ministry itself chairs, hosts and funds a public liaison committee when, for instance, a company faces financial hardships and is unable to co-ordinate and fund such a committee.

In this case, MOE's 1992 move to ask the local Council to form a public advisory committee appears appropriate; for a remediation attempt of this size and because of the severity of problems with contaminated water and soil it seems fitting for local elected representatives to be involved and lead the community consultation process.

The CPAC committee structure – with voting members from the local Township, health community, environmental and service groups, and members of community at large and non-voting members from the Regional Municipality of Waterloo, MOE, Chemtura Canada Co./Cie and Grand River Conservation Authority – appears to be conducive to promoting meaningful public consultation on issues concerning the remediation of the Chemtura site.

The ECO also notes the 2007 ERT decision which identified “genuine consultation” among MOE, Chemtura and CPAC in the process of issuing the 2007 C of A. The ECO encourages MOE to continue to engage the local community in the site's remediation efforts.

Review of Application R2011004:**2.1.12 Banning Gasoline Powered Lawnmowers under the EPA
(Review Denied by MOE)**

Keywords: MOE; air pollution; lawn equipment; greenhouse gases

Background/Summary of Issues

Ontario's four seasons could be defined by the sounds of gasoline-powered yard maintenance equipment: lawnmowers, leaf blowers, snowblowers, and trimmers. Aside from their noise, these gasoline-powered tools are sources of air pollution. In September 2011, the Ministry of the Environment (MOE) received an application for review requesting that the *Environmental Protection Act (EPA)* be amended to ban the use of these polluting outdoor maintenance equipment, particularly lawnmowers.

The applicants argue that gasoline-powered lawnmowers (and similar equipment) emit greenhouse gases (GHG), and smog-causing pollutants: nitrogen oxides (NO_x), volatile organic compounds (VOCs), particulate matter (PM), hydrocarbons (HC) and carbon monoxide (CO). These pollutants can harm the environment and human health. Furthermore, spillage from filling equipment gasoline tanks can contaminate the soil and water. The applicants point out there are cleaner alternatives available, including manual and electric mowers, and that significant emission reductions could be achieved by switching to cleaner alternatives since most Ontario households with lawns own and regularly use lawnmowers.

The Mow Down on Mowers

A 2007 Statistics Canada Households and Environment Survey revealed that 85 per cent of Ontario households with lawns used a lawnmower: 67 per cent of households used a gasoline-powered mower, 15 per cent used an electric mower and 5 per cent used a manual mower. Furthermore, Statistics Canada determined that gasoline-powered lawn equipment use 151 million litres of gasoline and release approximately 80,000 tonnes of GHG and smog-forming emissions yearly in Canada.

The Ontario government has cited statistics stating that using a gasoline-powered 3.5 horsepower lawnmower for one hour produces the same amount of air pollution as a car driven for 550 kilometres. The U.S. Environmental Protection Agency (US EPA) reports that exchanging 1,000 gasoline-powered lawnmowers for electric mowers has the potential to reduce VOC emissions by 9.8 tons (8.89 tonnes) per year – the equivalent to removing 230 cars off the road.

Similar air pollution concerns also apply to other gasoline-powered outdoor maintenance equipment.

Although not explicitly referenced in the application, noise pollution is another hazard associated with these machines. The excessive noise can cause adverse environmental and health effects. Depending on the model, the sound level of a gasoline-powered lawnmower or snowblower is 106 decibels. In comparison, a jet plane taking off or police siren registers at 120 decibels, and hearing loss can occur from sounds louder than 85 decibels. While approximately 20 cities in California have banned the use of leaf blowers for noise reasons, attempts by the cities of Vancouver and Toronto were less successful due to strong opposition from landscapers.

Federal Small Engine Standards

The Off-Road Small Spark-Ignition Engine Emission Regulations, under the *Canadian Environmental Protection Act, 1999*, were created in 2003 and largely came into force in January 2005. The regulations establish standards for smog-forming emissions for spark-ignition engines (rated up to 19 kilowatts or 25 horsepower). These are typically gasoline-fuelled engines found in lawn and garden machines (hedge

trimmers, brush cutters, lawnmowers, garden tractors, snowblowers, etc.), in light-duty industrial machines (generator sets, welders, pressure washers, etc.), and in light-duty logging machines (chainsaws, log splitters, shredders, etc.). The regulations apply to 2005 and later model-year engines, and are aligned with those of the US EPA, which eases the trade of these machines between the two countries.

The regulations require engines meet applicable standards for: emission control systems and defeat systems; exhaust emissions; crankcase emissions; and adjustable parameters. The exhaust emission standards are divided into seven classes based on engine displacement and usage in either handheld or non-handheld applications. The regulations establish a maximum level of CO and combined HC and NO_x emissions for each engine class.

Voluntary Programs

Voluntary private-sector programs such as the Canada-wide Mow Down Pollution program are designed to encourage the public to retire their older, high-polluting, gasoline-powered lawn equipment. Participants of Mow Down Pollution can bring their mowers, trimmers, blowers or chainsaws to any Home Depot store during the annual two-week event and receive a \$100 instant rebate on the purchase of an environmentally preferable alternative product such as manual machines, electric or cordless machines, or new four-stroke gasoline-powered machines that meet the federal emission standards. The retired machines are recycled and no purchase is required to qualify for the free recycling.

Since 2001, the program states it has retired more than 54,000 machines, and as of 2011, prevented the release of more than 2,000 tonnes of GHG and smog-forming emissions.

Ministry Response

MOE denied the application for review and outlined its reasons in a letter to the applicants dated November 14, 2011. The ministry stated it considered its Statement of Environmental Values (SEV), the potential harm to the environment if the review was not undertaken, and whether the substance of the application was subject to periodic review. In addition, the ministry said it looked at other initiatives related to the application.

MOE concurs with the applicants that gasoline-powered equipment produce smog-causing emissions – NO_x, VOCs, and PM – and that reducing emissions would be consistent with its SEV. However, the ministry stated that banning mowers was not necessary to advance the SEV since these principles are being applied through other air quality initiatives such as Drive Clean (vehicle emissions reduction program), the coal-power electricity phase-out, regulating industrial NO_x and SO₂ emissions, and reducing GHG from transportation.

According to MOE, the potential for environmental harm if the review was not undertaken is low. Although gasoline-powered mowers release emissions that contribute to the formation of ground level ozone, the ministry concluded their impact was very small compared to other sources. It estimates that gasoline-powered mowers in Ontario contribute to 0.5 per cent of the total VOC emissions in the province and less than 0.05 per cent of total NO_x and GHG emissions.

MOE further stated the issue is being addressed by the federal government and voluntary programs. The ministry believes emissions from gasoline-powered mowers will continue to decrease as a result of the federal emission standards that apply to equipment manufactured since 2005. As older equipment is retired, newer models are expected to be cleaner and more efficient. MOE also noted that two voluntary public replacement programs operating in Ontario – Mow Down Pollution and Cut it Out Toronto – encourage people to trade in their old gasoline-powered lawn and garden equipment for cleaner alternatives.

MOE stated that while emission reductions from gasoline-powered equipment are not subject to their own periodic review, the federal government does periodically review its Off-Road Small Spark-Ignition Engine Emission Regulations standards.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

MOE's decision to turn down the application was reasonable because federal regulations promote improvements in lawnmower emissions technology, voluntary programs promote the replacement of older machines, and provincial initiatives are addressing larger sources of air pollution. Nevertheless, the application raised important issues regarding air pollution from landscaping equipment. MOE itself acknowledged in a 2008 media release that this equipment contributes to smog and GHG.'

The ECO concurs that emissions from gasoline-powered maintenance equipment are small in proportion to other major sources of smog-causing emissions. However, the majority of Ontario households with lawns regularly use at least one of the above-listed polluting machines. In addition, older (pre-2005 models) engines have not been designed with pollution controls like motor vehicles. In past reports, the ECO has written about pollution hot spots in urban areas, and noted that in high traffic areas the pollution at "nose level" is much higher than the pollution detected at MOE monitoring stations (for more information see page 57 of our 2007/2008 Annual Report and page 99 of our 2009/2010 Annual Report). Emissions from polluting landscaping equipment release additional contaminants into populated urban areas, contributing to a hot spot of pollution in the vicinity of the machine.

While the federal regulations may eventually lead to improved engine design and less pollution, there are also short-term ways to reduce the environmental impact from polluting equipment such as avoiding gasoline spillage, proper equipment maintenance, low-maintenance grass and landscaping practices, alternative ground cover and trade-in programs. The ministry could support federal regulations and voluntary private-sector initiatives with provincial policies, incentives and awareness programs. For instance, the ministry could distribute information on sustainable landscaping practices through the outreach and educational initiatives it established for Drive Clean and the ban on the cosmetic use of pesticides. The province could also support voluntary programs (i.e., through funding and awareness campaigns) to promote the replacement of older equipment. MOE could also encourage more sustainable landscaping practices by provincial and municipal government bodies, including a shift to less polluting equipment.

This application should serve as a reminder to the ministry that it still has a role to play in facilitating the transition to more sustainable landscaping maintenance practices in the province. Not only will it help reduce air pollution, especially for highly exposed populations in urban yards and gardens, but the province may also see savings from reduced energy consumption associated with these practices.

Review of Application R2011005:

2.1.13 Amendments to the Oak Ridges Moraine Conservation Plan (Review Denied by MOE, MNR and MMAH)

This application was reviewed in conjunction with R2011006 (MNR) and R2011007 (MMAH). Please see Section 2.2.1 of this Supplement for the full review.

Review of Application R2011008:**2.1.14 Local Improvement Charges for Energy Improvements on Private Properties
(Review Denied by MOE and MMAH)**

Keywords: *Assessment Act*, *City of Toronto Act, 2006*; energy efficiency; Local Improvement Charges; Ministry of Finance; *Municipal Act, 2001*; renewable energy

In January 2012, two applicants requested that the Ministry of Municipal Affairs and Housing (MMAH) develop new legislation and policies – and review existing legislation, regulations, policies and/or technical guidance relating to Local Improvement Charges (LICs) – to enable the use of LICs for energy improvements on private properties. To this end, the applicants also requested that the *Municipal Act, 2001*, the *City of Toronto Act, 2006*, the *Assessment Act*, and the Ministry of Finance (MOF) be prescribed under the *Environmental Bill of Rights, 1993 (EBR)*.

Background

Under O. Reg. 586/06 (Local Improvement Charges – Priority Lien Status), made under the *Municipal Act, 2001*, a municipality has the authority to undertake capital work as a “local improvement” and to fund all or any part of the work by imposing special charges on the owners of properties that abut and/or immediately benefit from that work. (The City of Toronto is given the authority to impose LICs under O. Reg. 596/06, made under the *City of Toronto Act, 2006*.) Ontario municipalities have long used LICs to help cover the costs of infrastructure improvements, such as roads, sidewalks, parks, and water and sewer systems. LICs can be paid over a specified period of time with property taxes or, to save interest charges, in full.

Over the past few years, several organizations have identified that LICs – a financial instrument already familiar to municipal governments – could be adapted to finance energy efficiency and renewable energy improvements for residential and commercial buildings. (This use of LICs is sometimes referred to as Property Assessed Payments for Energy Retrofits or “PAPER”.) Under such an arrangement, a property owner could hire, with the municipality’s approval, an eligible contractor to install energy efficiency improvements in their building, and the municipality would finance the improvement – through reserve funds, private sector loans or other financing options – and recover the costs by billing the property owner on the property tax bill. In some cases, it may be possible for the LIC payment schedule to be set so that the annual payment is less than the average savings achieved via the energy improvement, thereby providing a positive cash flow to the property owner.

LICs tie the repayment of improvement costs to a building’s *property* rather than the *property owner*, such that future property owners assume the obligation for any outstanding debt related to the improvements. Applying LICs to energy improvements can therefore remove some of the barriers preventing property owners from investing in energy efficiency and renewable energy. Such barriers include lack of capital to finance energy improvements and an aversion to long-payback investments (since property owners often plan to move before they can fully recoup the costs of energy improvements). By passing on both the benefits and costs of energy improvements to future property owners, investments in energy efficiency and renewable energy are made more attractive and are more likely to be adopted, resulting in greater energy conservation and reduced greenhouse gas (GHG) emissions.

Summary of Issues

The applicants believe that “there are significant policy, legislative, regulatory and technical support deficiencies that currently limit the ability of municipalities to facilitate local improvements on a cost-neutral (or slightly revenue-positive) basis.” The applicants therefore requested the development of new legislation and policies, as well as a review of relevant policies, legislation, regulations and technical

guidance to enable the use of LICs for energy improvements on private properties – in particular, single family dwellings – on a cost-neutral or slightly revenue-positive basis to municipalities.

The applicants believe a comprehensive review of the expansion of LICs represents a “singular and vital opportunity for all levels of government in Canada, and would be consistent with the Ontario government’s stated policies of supporting energy conservation and environmental protection.” They identified several benefits of using LICs for energy improvements, including:

- Municipal governments could – at zero net cost – contribute to achieving targets for energy use and GHG emissions, while enhancing local economic development;
- Reduced energy use and GHG emissions;
- Less reliance on non-green energy sources;
- Provincial savings in energy infrastructure, environmental remediation, reduced unemployment and health care costs;
- Protection of municipalities’ property tax bases and homeowners’ property values amidst rising and volatile energy prices; and
- Local, provincial and federal economic stimulus.

To support their arguments and underlying rationale, the applicants directed the government to several reports, particularly three published by the David Suzuki Foundation:

- Property Assessed Payments for Energy Retrofits: Recommendations for Regulatory Change and Optimal Program Features (2011);
- Property Assessed Payments for Energy Retrofits and Other Financing Options (2011); and
- Strategic Recommendations for an Optimal “PAPER” Program (2011).

The applicants made many specific suggestions as to how the government should approach implementing a PAPER system. While they acknowledged that the list of local improvement “work” for which LICs can be charged under O. Reg. 586/06 and O. Reg. 596/06 may not be limiting – such that Ontario municipalities might already be authorized to charge LICs for energy improvements on private properties – the applicants argued that “municipalities are concerned about this interpretation and request that these additional uses of LICs be specified. Further, the allocation of LIC costs and the method by which they are set up are too complex and time-consuming to enable LICs’ use for this purpose.” Indeed, in January 2012, the Association of Municipalities of Ontario sent a letter to the Minister of Municipal Affairs and Housing requesting, among other things, that MMAH “develop a regulatory remedy to provide clear authority for willing municipalities to use LICs to finance energy improvement retrofits on private property.”

To enable LICs to be used for energy retrofits, the applicants argued that amendments may be needed to the *Municipal Act, 2001* and several regulations: O. Reg. 586/06; O. Reg. 596/06; and O. Reg. 403/02 – Debt and Financial Obligation Limits, made under the *Municipal Act, 2001*. Furthermore, anticipating that buildings retrofitted to be more energy efficient will eventually be appraised at higher values – thereby imposing higher property taxes on property owners – the applicants suggested that the government amend aspects of Ontario’s *Assessment Act*. Specifically, the applicants proposed that the Minister of Finance, as authorized under subsection 3(1), paragraph 18.1 of the *Assessment Act*, prescribe regulations exempting from assessment and taxation any machinery and equipment used for the purposes of energy conservation or efficiency.

However, the *Municipal Act, 2001*, the *City of Toronto Act, 2006*, the *Assessment Act*, and the regulations under these acts are not prescribed under the *EBR* for applications for review. In order to request a review of these acts and regulations with respect to LICs, the applicants therefore requested that these acts be prescribed. Furthermore, although MMAH administers the primary legislation, regulations, policies and instruments relevant to LICs, the applicants argued that MOF should also be prescribed under the *EBR* since other related laws, regulations, policies and instruments administered by MOF may also need to be reviewed.

The ECO forwarded the application to MMAH and the Ministry of the Environment (MOE), the ministry responsible for prescribing legislation, regulations and instruments under the *EBR*.

Ministry Response

MMAH's Response

MMAH denied the applicants' request for a review on March 23, 2012. The ministry noted that prior to receiving the application, MMAH had initiated a review of the LIC regulation (O. Reg. 586/06) to assess how well its existing features work for municipalities, and whether the regulation could be amended to more effectively address local and provincial priorities. As part of this review, MMAH consulted with provincial ministries and stakeholders, including the Association of Municipalities of Ontario and the City of Toronto. In conducting its preliminary consideration of the application, MMAH determined that it is capable of examining many of the applicants' concerns regarding LICs for energy improvements within the framework of the already-initiated review of O. Reg. 586/06.

MMAH also pointed out that section 67 of the *EBR* permits the ministry, when determining whether the public interest warrants a review, to consider whether the matters sought to be reviewed are otherwise subject to periodic review. Because MMAH is required to initiate reviews of the *Municipal Act, 2001* and the *City of Toronto Act, 2006* every five years, the ministry concluded that the public interest does not warrant a review of these acts to have them prescribed under the *EBR*. In light of the above, MMAH denied the request for review but noted that it would consider the applicants' suggestions in its review of the LIC regulation.

MOE's Response

In March 2012, MOE informed the applicants that, due to the complexity of the review and the consultation required, the ministry needed additional time to complete its preliminary consideration of the application, and expected to have a response by April 20, 2012. On April 20, 2012, MOE denied the application for review.

Upon reviewing the application, MOE determined that the applicants' request to prescribe MOF and the *Assessment Act* under the *EBR* falls within the ministry's mandate. However, because prescribing the *Assessment Act* requires that MOF (the ministry that administers the *Assessment Act*) first be prescribed, MOE limited its preliminary consideration only to whether there is a need to prescribe MOF under the *EBR*.

In order to determine the appropriateness of prescribing MOF under the *EBR* for the purposes of public notification and comment, MOE reviewed the principal functions of MOF, and analyzed these roles against the *EBR* and its exceptions to public notification requirements. (The *EBR* exempts from public comment proposals that are predominantly financial or administrative in nature, or that form or give effect to a budget or economic statement presented to the Legislative Assembly.) MOE's preliminary assessment also included a review of a previous application for review requesting that MOF be prescribed under the *EBR* (see Other Information below).

MOE cited several reasons as to why the public interest does not warrant a review:

- MOF's functions (e.g., providing fiscal, taxation and economic policy advice; preparing the Provincial Budget; reporting on the province's economic and fiscal plans; administering most of the province's major tax statutes) result in policies, acts and regulations that are predominantly financial in nature, and therefore exempt from the *EBR*'s public notice and comment requirements;
- MOF would have few, if any, environmentally significant policies or acts requiring consideration of a Statement of Environmental Values (SEV);

- Because government funding decisions are subject to debate and scrutiny in the Legislative Assembly, additional accountability measures for such decisions under the *EBR* would be duplicative;
- Aside from taxation, the matters on which MOF provides advice are largely proposed by other ministries, which, if prescribed under the *EBR*, are responsible for ensuring that their proposals address environmental considerations with respect to their own SEVs.

In addition, MOE also determined that prescribing MOF would not further the applicants' overall goal of enabling LICs to be used for energy retrofits, since, "as noted in the application, machinery and equipment used for energy generation are already exempt from property taxation under paragraph 18 of subsection 3(1) of the *Assessment Act*." The ministry also noted that where a property has qualifying solar or geothermal energy conservation installations, section 42.6 of O. Reg. 282/98 – General, made under the *Assessment Act*, directs that these installations shall not increase the assessment of the property for tax purposes.

For the full text of the ministries' decisions, please see our website at www.eco.on.ca.

Other Information

When the *EBR* was first proclaimed in February 1994, MOF was listed as a prescribed ministry under O. Reg. 73/94, the General Regulation under the *EBR*. In November 1995, however, the ministry was removed from the list of prescribed ministries when the government passed O. Reg. 482/95 under the *EBR*. Since then, as a non-prescribed ministry, MOF has not been required to consider an SEV or post notices on the Environmental Registry soliciting public comment on proposals for environmentally significant acts and policies.

In 2003, MOE received an application for review requesting that MOF be reinstated under the *EBR* (see pages 200-202 of the Supplement to the ECO's 2003/2004 Annual Report). The applicants argued that the removal of MOF from the *EBR* caused drastic consequences for environmental protection because MOF was no longer required to consider the environmental consequences of its decisions. MOE accepted the review, but ultimately decided that prescribing MOF was unwarranted. MOE's reasons for that decision were the same as those cited in MOE's Decision Notice for the current application for review (see Ministry Responses above).

On May 16, 2012, MMAH posted on Ontario's Regulatory Registry a proposal to amend O. Reg. 586/06 and O. Reg. 596/06 to: clarify municipal flexibility to undertake different types of capital works as a local improvement, including, but not limited to renewable energy and water conservation capital works; and provide new flexibility for municipalities to enter into agreements with willing private land owners to undertake improvements on private property.

ECO Comment

Using LICs for Energy Improvements

By encouraging municipalities to use LICs for energy improvements, the Ontario government has an opportunity to advance the installation of energy efficiency and renewable energy technologies across the province; LICs have the potential to play a role in helping municipalities manage both their community's energy costs and GHG emissions.

The need for additional funding streams for residential energy investments is particularly critical given that the Ontario government and the federal government terminated their home retrofit programs in March 2011 and January 2012 respectively. LICs could replicate an advantage of these home retrofit programs – their ability to fund actions that reduce the use of any form of energy. This would help overcome the inefficiencies and funding gaps in the current system of conservation program delivery, where separate utility conservation programs narrowly target either electricity or natural gas savings. Moreover, the *Green Energy Act, 2009* (GEA) enables the province to set energy conservation targets for municipalities, and

O. Reg. 397/11 – Energy Conservation and Demand Management Plans, made under the *GEA*, requires energy consumption reports and conservation plans from municipalities. If such targets are set, the removal of any barriers to using LICs for energy efficiency improvements would facilitate achievement of the requirements of the Act and its regulation.

In 2008, Ontario's Solar Task Force recommended that municipalities be allowed to use LICs for renewable energy improvements on private property. This government-created task force observed that "there are barriers in Ontario, however, to the use of local improvement charges to finance home solar installations." Specifically, the task force pointed out that O. Reg. 586/06 does not include energy-efficiency and renewable energy improvements on private property in its definition of improvements eligible for this type of financing. The task force suggested that the province therefore provide direction and guidance to the Ontario Municipal Board and Ontario municipalities on the implementation of such programs.

The ECO agrees with the Solar Task Force's recommendation. Although the definition of eligible LIC work in O. Reg. 586/06 is not limiting and does not exclude energy efficiency and renewable energy installations, without government clarity and leadership, municipalities may be unsure whether LICs for energy improvements are permissible, and may be hesitant to explore this option. The ECO urges MMAH and the Ministry of Energy to provide explicit direction and support to municipalities on using LICs for energy improvements.

MMAH's Response

The ECO accepts MMAH's justification for denying this request for review; since the ministry had already initiated a review on the effectiveness of LICs, and MMAH committed to considering the applicants' suggestions as part of that review, the applicants' concerns should be adequately addressed without a review under the *EBR*. The ECO expects MMAH's review of O. Reg. 586/06 (and presumably, by extension, O. Reg. 596/06) to carefully consider the applicants' suggestions, and urges the ministry to provide clarity and show leadership to encourage municipalities to utilize LICs for energy improvements.

Nevertheless, the ECO disagrees with MMAH's assertion that, because the *Municipal Act, 2001* and the *City of Toronto Act, 2006* are subject to periodic review, subsection 67(1) of the *EBR* provides justification as to why these acts should not be prescribed under the *EBR*. While the fact that an act is subject to regular review may, in some cases, provide reasonable rationale for a ministry denying a request for review, it does not provide justification for an act not being prescribed in the first place; the prescribing of environmentally significant legislation under the *EBR* is not about installing a mechanism for review, but ensuring that certain environmental rights are available to the public.

The *Municipal Act, 2001* and the *City of Toronto Act, 2006* impart municipalities with environmentally significant powers related to: regulating noise, odour, dust, vibration and outdoor lighting; passing by-laws concerning tree-cutting and dumping of fill; providing energy conservation programs; closing premises that have a detrimental impact on a neighbourhood; and creating and regulating cycling lanes. Not prescribing these acts limits public input, prevents ECO oversight of MMAH's handling of public requests, and lessens government transparency and accountability.

MOE's Response

The ECO mostly agrees with MOE's assertion that prescribing the *Assessment Act* would not further the applicants' goal of promoting LICs for energy improvements. In early January 2012, O. Reg. 282/98 was amended to clarify that solar or geothermal energy installations should not result in an increase in the assessment value of a property for tax purposes (although the ECO notes that no similar provision exists for more traditional investments in energy efficiency, such as increased insulation).

Nevertheless, the ECO disagrees with MOE's more general conclusion that MOF should not be prescribed under the *EBR*.

To fulfill the purposes of the *EBR*, the Act provides Ontarians with several ways to participate in – and hold the government accountable for – environmentally significant decision making. These means of public participation include commenting on proposals on the Environmental Registry, submitting applications for review and investigation, and appealing ministry decisions on prescribed instruments. In denying this application for review, MOE argued that MOF's decisions are: predominantly financial in nature – and therefore exempt from the *EBR*'s notice and comment requirements; and rarely environmentally significant enough to warrant SEV consideration. This rationale, however, focuses only on why MOF need not be prescribed for the purposes of public comment and SEV consideration, when what the applicants actually wanted was for MOF to be prescribed for applications for review. (If MOF were prescribed for applications for review, the applicants would be able to request that the *Assessment Act* be prescribed, and request a review of the *Assessment Act* and MOF policies, acts and regulations with respect to expanding the use of LICs for energy improvements.) The ECO notes that the exceptions offered by sections 15(2) and 16(2) of the *EBR* relate only to whether a decision should be posted on the Environmental Registry; they do not provide justification as to why MOF should not be prescribed for applications for review or SEV consideration.

The ECO believes that many of MOF's principal functions, particularly the development of the Provincial Budget and MOF's allocation of funds to MOE and the Ministry of Natural Resources (MNR) (see Part 5.1 of the ECO's 2010/2011 Annual Report), have the potential to cause environmentally significant effects. Over the years, the ECO has pointed out several areas under MOF's jurisdiction that are environmentally significant and illustrate why MOF should be prescribed and subject to requests for review. Recent examples include: the ministry's involvement in population growth modeling and projections; MOF's oversight and disposition of funds to cover the costs of administering economic incentives to support GHG reduction initiatives; and the need for a regulation under the *Assessment Act* to revise MNR's Conservation Land Tax Incentive Program to include the habitats of threatened species.

Prescribing MOF and requiring it to consider its SEV for environmentally significant decisions – including those that are predominantly financial in nature – would further the purposes of the *EBR*. Moreover, prescribing MOF for applications for review would enable the public to ask the ministry to develop new laws and policies that would advance environmental goals, including, for example, green taxes and economic incentives to conserve energy and resources. In a 1996 Special Report (Ontario Regulation 482/95 and the *Environmental Bill of Rights, 1993*), and in several Annual Reports since, the ECO has repeatedly recommended that MOF be prescribed, both for posting proposals on the Registry and for the purposes of applications for review (see pages 201-202 of the Supplement to the ECO's 2003/2004 Annual Report and page 29 of the ECO's 2009/2010 Annual Report). Unfortunately the ECO's repeated requests that MOF be prescribed once more under the *EBR* have been ignored.

Review of Application R2011010:

2.1.15 The Need for an Ontario Participant and Intervenor Funding Act (Review Denied by MOE)

Keywords: *Environmental Bill of Rights, 1993 (EBR)*; public participation; intervenor funding

Background/Summary of Issues

In January 2012, the ECO received an application requesting a review of a number of Ontario's existing laws, regulations and policies to provide for improved public participation and hearing rights. The applicants also requested a review of the need for a new law – an "Ontario Participant and Intervenor Funding Act" – that would provide for intervenor funding to encourage early public participation in government decision making, as well as participation in approval processes and hearings before a wide range of tribunals.

The applicants asserted that the provision of funding to facilitate public participation in approval, planning, consultation and decision making processes under various Ontario acts and regulations “would be beneficial and promote better decision making by government ministries and proponents.” They also stated that “early participation in planning can avoid surprises and controversies for decision-makers at later stages in the approval process.”

The applicants identified some 40 pieces of legislation, including the *Environmental Bill of Rights, 1993* (*EBR*), that they wished to have reviewed, most of which are prescribed in O. Reg. 73/94, the general regulation made under the *EBR*. The applicants also requested a review of O. Reg. 73/94 itself. The applicants noted that the review may require the involvement of a range of ministries and agencies, and requested a review of the need to prescribe a number of other ministries and agencies under the *EBR* in order to provide funding for participation in the various laws listed by the applicants.

The applicants suggested that the proposed new law be modelled on Ontario's former *Intervenor Funding Project Act (IFPA)* or other legislation now applicable in other jurisdictions. The *IFPA* had established a process for requiring proponents who stood to gain financially by decisions made by the Ontario Energy Board or Environmental Assessment Board (now Environmental Review Tribunal) to provide funding to intervenors who wished to participate in tribunal hearings on matters of public interest. The *IFPA* was repealed in 1996.

To support their request, the applicants enumerated detailed reasons that a review is needed, including the fact that the *EBR* has not been comprehensively reviewed or changed in the 18 years since it was enacted, despite shortcomings of the existing public participation regime under the *EBR*, as well as the fact that the issue of intervenor funding has not been reviewed publicly since 1992 or internally by MOE since 1995. The applicants asserted that the historic public input into the *EBR* does not negate the need for the requested review, particularly in the face of changing societal values and environmental priorities. They also pointed to an increasing imbalance in the playing field in favour of developers, “as evidenced by SLAPP suits [strategic lawsuits against public participation] and other lengthy planning and approval hearing processes” to illustrate the need for a review.

The applicants explained that they are seeking a narrow review, not a wholesale reconsideration of the *EBR* and other environmental laws. The applicants believe that the review should focus on identifying key changes such as the enactment of a new intervenor and participant funding law “so that these laws can better deliver on promises such as conserving/restoring biodiversity and environmental integrity, ensuring environmental sustainability, promoting water and energy conservation, and protecting the public right to a healthful environment.”

The ECO forwarded the application to the Ministry of the Environment (MOE).

Ministry Response

In March 2012, MOE advised the applicants that it was denying their application. Based on its preliminary review of the application, the ministry concluded that the public interest did not warrant a review. In reaching this conclusion, MOE considered the following factors, in accordance with the *EBR*:

- *Potential for harm to the environment:* MOE concluded that, based on the information provided by the applicants, there would not likely be potential harm to the environment if the review sought was not undertaken.
- *Resources required to conduct the review:* The ministry noted that the review sought by the applicants was far-reaching and would require significant resources to complete, including establishing a “multi-ministry task group.”

- *Opportunity for public participation in the development of the Act in respect of which a review is sought:* MOE noted that the public was consulted extensively on the concept and content of the *EBR* before it was enacted. MOE also noted:

...the [*EBR*] Task Force discussed the possibility of including intervenor funding provisions in the *EBR*. However, it concluded that, because the *IFPA* was in place and taking into account other considerations, such as equity, there was no need for intervenor funding provisions to be included...

- *Other matters the Minister considers relevant:* The ministry described several examples of its efforts “to ensure stakeholders and members of the public receive clear, informative and timely information so that they may take an active role in environmental decision-making.” For instance, MOE referred to: requirements to consult with Aboriginal communities and municipalities about proposed renewable energy projects; requirements for public consultation at all stages of Ontario’s source water protection planning process; and ongoing improvements to the Environmental Registry, as well as regular extension of time to comment on proposals beyond the 30-day minimum required under the *EBR*.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

Other Information

In its decision, MOE did not inform the applicants that the ministry is, in fact, already undertaking a review of the *EBR* in response to another application for review submitted to the ECO in December 2010 (for more information, see a short description of that application, R2010009, in Section 2.1.7 of this Supplement). Those applicants had requested a formal review of the *EBR* and its regulations, and, as part of that application, specifically submitted that:

the establishment of a participant or intervenor funding program is long overdue under the *EBR* in order to facilitate meaningful public usage of the review, comment and appeal provisions of the *EBR* in relation to instruments.

ECO Comment

Ensuring that the public has the financial means to effectively participate in government decision making on environmental matters of public interest is a laudable goal, and one that the ECO supports. Nevertheless, MOE’s decision to turn down this application was reasonable.

As MOE indicated, the review as requested would likely have required significant ministry resources, as well as creation of an inter-ministry task group. The ministry’s conclusion that a failure to undertake this review would not likely result in harm to the environment was fair. However, the ECO notes that this latter test is a difficult one; while, in the ECO’s view, it is indisputable that public participation can meaningfully enhance environmental protection, the inverse is much more difficult to ascertain. How can one predict whether a lack of available intervenor funding – which may present a barrier to public participation for some individuals or organizations in some cases – will result in harm to the environment?

MOE’s apparent argument that a review is not warranted because the *EBR* Task Force considered and rejected intervenor funding provisions in the *EBR* is somewhat less convincing; that 1992 decision was based at least in part on the existence of the *IFPA* at the time; it would be reasonable to speculate that the Task Force may have reached a different conclusion today.

Review of Application R2011011:**2.1.16 Request to Prescribe Ministry of Training, Colleges and Universities under the *EBR*
(Review Denied by MOE)**

Keywords: Ministry of Training, Colleges and Universities; *Environmental Bill of Rights, 1993*

Background/Summary of Issues

The *Environmental Bill of Rights, 1993 (EBR)* is an important piece of provincial environmental legislation that assigns rights and responsibilities to the public and prescribed ministries respectively. There are 14 ministries currently prescribed in O. Reg. 73/94 under the *EBR*. These ministries are required to develop a Statement of Environmental Values and consider it when making decisions that would impact the environment. They are also required to post notices on the Environmental Registry for all environmentally significant acts, regulations and policies. Nine of these 14 ministries, including the Ministry of the Environment (MOE), are also subject to the *EBR*'s application for review process.

In February 2012, two applicants submitted an application for review, requesting that MOE amend O. Reg. 73/94 to prescribe the Ministry of Training, Colleges and Universities (MTCU) under the *EBR*. The ECO forwarded this application to MOE. The applicants believed that prescribing MTCU would have a positive impact on the financing and support of sustainability training, environmental and outdoor education, and would benefit Ontario's colleges and universities.

The applicants claimed that Ontario students in colleges, universities and government-funded training programs are not provided the knowledge, skills and values needed to address environmental degradation and behave in an ecologically-responsible manner. While acknowledging that there are environmental programs and courses at these institutions, the applicants believe that more needs to be done to fully integrate ecological training into all facets of post-secondary education.

The applicants recommended that once MTCU is prescribed, the ministry should establish a province-wide mandatory sustainability training course for first year students called "ecological training for sustainability." The applicants stressed that in light of the serious environmental issues facing the planet, ecological literacy must be a priority for MTCU.

Ministry Response

MOE denied the application for review in April 2012. The ministry stated that it consulted with MTCU and reviewed the evidence provided by the applicants, and determined that the public interest did not warrant a review.

The ministry determined that delivering training and education and developing program curriculum was "beyond the scope of MTCU's mandate," which primarily provides funding to universities, colleges, and supports Employment Ontario and training services. MTCU does not set the curriculum for these institutions.

MOE noted that the Environmental Registry posting requirements do not apply if the proposal is "predominantly financial or administrative in nature" and since MTCU's mandate is mainly financial, the public notice and comment requirements of the *EBR* would not apply to MTCU's activities. In addition, the ministry stated that colleges and universities are responsible for all academic matters, and are also subject to accountability measures. MOE further maintained that opportunities to participate are provided to students, staff, experts and the public who may write to MTCU to consider any proposal within the ministry's mandate.

MOE noted that significant staff resources would be required to complete the requested review. For instance, a review would require MOE and MTCU staff to assess how MTCU's activities, decision making and legislation should be prescribed under the *EBR*, despite already knowing that MTCU's mandate does not lead to decisions that would significantly affect the environment or trigger the requirement to post proposal notices on the Environmental Registry.

In addition, MOE stated that MTCU informed them that Ontario colleges currently support the "promotion of ecological knowledge and practices by offering more than 50 programs." Considering the above factors and information, MOE concluded it was unlikely that the environment would be harmed if the review was not undertaken and MTCU was not prescribed under the *EBR*.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

MOE's decision to deny the application for review was reasonable. Unlike the Ministry of Education (EDU), MTCU does not develop the curriculum for universities and colleges but rather focuses on the funding and administration of these institutions. The ECO agrees with MOE that many of its decisions would not be subject to Registry posting requirements or have a significant impact on the environment. That said, there is no reason why unprescribed ministries should not consider the environment in the course of fulfilling their mandate. Although not prescribed, MTCU can do its part, alongside prescribed ministries, by encouraging and promoting environmental sustainability and ecological literacy within Ontario's universities, colleges and training programs.

Review of Application R2011012:

2.1.17 Permits to Take Water for Water Bottling Industry (Review Undecided by MOE)

Background/Summary of Issues

In March 2012, the Wellington Water Watchers and the Council of Canadians filed an application for review requesting the Ministry of the Environment (MOE) review O. Reg. 387/04 – Water-taking, made under the *Ontario Water Resources Act*, as well as review the need for a new regulation pertaining to water bottling operations.

The applicants provided several reasons why the ministry should undertake this review. In their opinion, Permits to Take Water (PTTWs) issued to water bottling companies do not conform to the principles included in MOE's Statement of Environmental Values (SEV). As such, they argue that the credibility and effectiveness of the *Environmental Bill of Rights, 1993*, to protect the environment is weakened. In addition, the applicants consider the PTTW granting process to be flawed. They stated that the process does not consider all the impacts of permits issued to water bottling companies such as resource depletion, air and noise pollution, infrastructure degradation, solid waste generation, reduced property values along trucking routes, and safety risks, among other things. The applicants also asserted that the process also does not consider the effects of climate change on groundwater recharge. Lastly, the applicants contend that MOE is not adequately considering public input in its PTTW decision making.

To support their application, the applicants cited PTTW #6480-74BKR4 issued by MOE to Nestle Waters Canada on August 2007 as an example to highlight their concerns.

Ministry Response

At the time of writing, MOE had not yet responded to this application, as the deadline for providing a preliminary decision fell outside the ECO's 2011/2012 reporting year.

ECO Comment

The ECO will review the handling of this application in our 2012/2013 Annual Report.

2.2 Ministry of Municipal Affairs and Housing**Review of Application R2011007:****2.2.1 Amendments to the Oak Ridges Moraine Conservation Plan
(Review Denied by MOE, MNR and MMAH)**

Keywords: Oak Ridges Moraine; water quality; fill; permit to take water; class environmental assessment; transportation

Background

The Oak Ridges Moraine is often referred to as southern Ontario's rainbarrel. Its groundwater aquifers and headwater streams collect and provide baseflow to more than 30 major streams, provide drinking water to much of the Greater Toronto Area's population. The moraine spans the regions of Peel, York and Durham. Its woodlands, wetlands, grassland prairies, rivers, and lakes support many plant and animal species, including endangered and threatened species like redbelt dace, Jefferson salamander and butternut trees.

Ten years ago the government created a plan – the Oak Ridges Moraine Conservation Plan (2002) (ORMCP or the "Plan"), under the *Oak Ridges Moraine Conservation Act, 2001 (ORMCA)* – to protect this special geological landform from rapid urban development. The Plan's objectives speak to the long-term protection of this geological feature and its environment, including: protecting its ecological and hydrological integrity; permitting only land and resource uses that maintain, improve or restore the ecological and hydrological functions of the moraine; and, ensuring that the moraine is maintained as a continuous natural landform.

In September 2011, the Oak Ridges Moraine Foundation submitted an application under the *Environmental Bill of Rights, 1993 (EBR)* requesting a review of the Plan and other legislation, regulations and policies to address issues related to the implementation of the Plan and newly identified threats to the ecological and hydrological integrity of the moraine. Originally, the government committed to review the Plan in 2012, but this date was changed to 2015 so that it could be reviewed along with the Greenbelt Plan and the Niagara Escarpment Plan. The applicants requested that the government address new threats to the moraine and deficiencies in the Plan's delivery before the 2015 review.

The applicants cited the results from the Oak Ridges Moraine Foundation's "Measuring Success on the Oak Ridges Moraine Project" as the basis for this application, as the project revealed weaknesses with the Plan and its implementation. While the ideals behind the Plan are excellent, the applicants are concerned that in its delivery, the moraine is not being protected to the extent that had been envisioned.

The applicants identified several policy and monitoring gaps in the Plan that could threaten the long-term conservation of the moraine.

The ECO forwarded the application to the Ministry of Municipal Affairs and Housing (MMAH), Ministry of the Environment (MOE), and the Ministry of Natural Resources (MNR) for consideration. In November 2011, all three ministries denied the application for review.

Site Alteration and Tree Conservation

Under the *ORMCA*, the Minister of Municipal Affairs and Housing has the ability to require some municipalities to pass by-laws under the *Municipal Act, 2001* regulating tree conservation (such as prohibiting or regulating the destruction or injury of trees in a woodland), and site alteration (such as prohibiting or regulating the placing or dumping of fill, the removal of topsoil and the alteration of the grade of the land). These activities have the potential to seriously degrade ecosystems; for example, the importation of potentially contaminated fill from commercial sites can pollute soil, groundwater, rivers and lakes, and large scale tree cutting can destroy and degrade habitat.

As noted by the applicants, in the last ten years MMAH has not taken action to ensure that these by-laws are implemented, nor provided any standards or instructions to municipalities on what they might contain. Many municipalities have passed site alteration and tree conservation by-laws, but the applicants contend that these by-laws are incomplete and/or inconsistent across the moraine, not meeting the Plan's objectives and environmental standards. The applicants recommended that MMAH should require all municipalities on the moraine to pass site alteration and tree conservation by-laws. They also requested that MMAH, MOE and MNR provide municipalities with technical standards outlining the minimum level of protection that must be included in by-laws to meet the requirements of the Plan.

Importation of Fill

The applicants cautioned that "[l]arge-scale fill importation has become an especially controversial and complicated land use issue in some parts of the Oak Ridges Moraine." The applicants claimed that fill from development in the Greater Toronto Area, which may contain some contaminants that could have long-term impacts on the water resources, is being dumped on the moraine in depleted sand and gravel pits. The applicants stated that there is a lack of clear standards and procedures for controlling this type of fill importation.

The current regulatory framework for managing fill provides clear direction when soil is determined to be contaminated: contaminated fill is regulated as "waste" under the *Environmental Protection Act (EPA)* and must be disposed of in proper waste management facilities. However, the direction is somewhat ambiguous when fill is semi-contaminated or "compromised" – when it has levels of contaminants like petroleum and metals too low to be classified as waste but too high for residential development sites. Compromised soil is managed under various pieces of legislation, such as the *Aggregate Resources Act (ARA)* when fill is placed in aggregate pits or quarries as part of site rehabilitation. When converting an industrial lot or brownfield site to a residential development such as a condominium, developers must either remove or remediate contaminated or compromised soil.

The applicants requested that MMAH, MOE and MNR provide guidance on how to assess imported fill to ensure it is clean and does not negatively impact the ecological integrity of the moraine. The applicants also requested that the government review the approval process under the *EPA* and the *ARA* to ensure that fill importation into depleted sand and gravel pits meets the environmental standards of the Plan.

Transportation, Infrastructure and Utilities

The Plan states that transportation, infrastructure and other utility works will not be approved in certain areas of the moraine unless the need for the project has been demonstrated and that there is no reasonable alternative. The applicants stated that the Plan's criteria are "vague," "nebulous," and provide an automatic approval for these types of activities. Since the Plan restricts most major urban

development, the applicants predict that transportation, infrastructure and utilities will likely represent the “largest element of surface and sub-surface disruption and land use change” on the moraine. The ECO noted in our 2001/2002 Annual Report that allowing infrastructure in the entire Plan area seems contrary to the objectives of the Plan. The applicants expressed concern that these types of activities could destroy or degrade the ecological and hydrological integrity of the moraine. Therefore, the applicants requested that MMAH and MOE provide direction to all municipal and other government agencies undertaking transportation, infrastructure and other utility works on how to address “need” and “reasonable alternative”, as required in the Plan. The applicants also requested that MMAH consider amending the Plan to clearly state what large-scale transportation, infrastructure and utility works will not be permitted in the moraine.

Much transportation and utility infrastructure is approved under class environmental assessments under the *Environmental Assessment Act*. The applicants stated that there is no protocol requiring agencies to consider the policies of the ORMCP during the class environmental assessment process. The applicants requested that MOE amend all relevant class environmental assessment procedures and other guidance materials to require consideration of the Plan’s policies during the environmental assessment approval process.

Water Management

The Plan contains many policies aimed at protecting moraine water resources, such as the requirements for stormwater management plans and watershed plans prior to the approval of major developments. However, the applicants stated that there are deficiencies in other water management legislation and regulations that could limit the effectiveness of the Plan to maintain or improve water quality, preserve water storage, and protect the related health of hydrological features found on the moraine. For example, the applicants noted that water taking permits on or adjacent to the moraine are not required to meet the Plan’s objectives or consider the cumulative impacts.

The applicants requested that Ontario Regulation 387/04, the water taking regulation made under the *Ontario Water Resources Act (OWRA)*, be amended to require all water taking permit applications in or adjacent to the moraine to describe how the activity, including its cumulative impacts, will meet the requirements of the Plan. In addition, the applicants requested that MNR and MOE “provide a detailed schedule describing how monitoring standards, monitoring stations and performance targets and indicators will be developed and populated in time for the scheduled 2015 review of the [Plan].”

Monitoring

Under the Plan, the provincial government, in consultation with municipalities, is required to identify performance indicators for monitoring the effectiveness of the Plan and establish a monitoring network in partnership with stakeholders. In our 2001/2002 Annual Report, the ECO recommended that MMAH, MNR and MOE (the then Ministry of Environment and Energy) begin planning and implementing the promised systems for monitoring and evaluating the Plan. The applicants stated that the province has not fulfilled its commitments to identify performance indicators and targets and that unless these commitments are met, the Province will not have the tools or information for a meaningful evaluation of the Plan in 2015. The applicants requested that the provincial government “revisit the commitment to provide effective performance indicators and targets and provide clear guidance and scheduling as to when this will be achieved in time for the 2015 review, including development of a monitoring network.”

Transitional Provisions

The applicants noted that when the public sees new development occurring in what they thought were protected moraine lands, pursuant to the Plan’s transitional provisions, it creates public doubt about the commitment of the Ontario government to the objectives of the Plan. The applicants stated that there has been sufficient time to resolve grandfathering matters and, therefore, they requested that MMAH eliminate the transitional provisions of the Act and Plan by 2015.

Auditing

The applicants claimed that there are numerous situations where it is known or suspected that compliance with the Plan is not occurring. The applicants are concerned that there is “no formal audit function developed by the Province, to determine the degree to which agencies responsible for the implementation of the ORMCP are complying with its requirements.” Given that the Niagara Escarpment Plan has provincial staff assigned to monitor and guide its progress, the applicants requested that MMAH consider assigning staff to monitor and assess the decision making around development and land use changes being proposed on the moraine to ensure compliance with the Plan or establish a process whereby this function is undertaken by an appropriate body.

Ongoing Support for Stewardship, Land Securement, Education and Research

The applicants stated that the Oak Ridges Moraine Foundation did not receive funding in the recent budget and will likely cease operations at the end of next year without provincial reinvestment. The applicants requested that the Ontario government reinvest in “non-regulatory initiatives that support the [Plan’s] protection and enhancement goals,” including recapitalization funds for the Oak Ridges Moraine Foundation and its programs. The Foundation has engaged partners in a large number of projects aimed at improving the health of the moraine including land stewardship, land acquisition, public awareness and education, research and trail development. In our 2010/2011 Annual Report, the ECO urged “the provincial government to continue investing in projects that protect the Moraine and to support the foundation in its original roles.”

Sustainable Lifestyle and Livelihood

The applicants stated that landowners and rural municipalities are concerned that the restrictions and limitations placed on permitted uses are making it difficult to maintain businesses and lifestyle choices. Therefore, the applicants requested that MMAH revise the range of permitted land uses on the moraine.

Ministry Response

In November 2011, MMAH, MOE and MNR turned down the application for review. To assess the application, MMAH led an inter-ministry team that included MOE, MNR, Ministry of Infrastructure, Ministry of Agriculture, Food and Rural Affairs and the Ministry of Transportation (MTO). MMAH stated that “the applicants’ request to review some of the policies of the ORMCP in advance of the 2015 review of the ORMCP, Greenbelt Plan and Niagara Escarpment Plan does not fully recognize the interconnections of each of these three plans, subsequent provincial initiatives such as the Greater Golden Horseshoe Growth Plan and source water protection, as the benefits of undertaking a review comprehensively.” MMAH further stated that “since the release of the *ORMCA* in 2001 and the Plan in 2002, the government has put in place a comprehensive approach to growth and manage resources in this geography. Collectively these support a land use planning system that promotes sustainable communities.”

For the full text of the ministry decision, please see our website at www.eco.on.ca.

Site Alteration and Tree Conservation Controls and Importation of Fill

MMAH stated that it held a number of meetings with municipalities in 2003 to discuss and explore the level of need and support for the establishment and implementation of tree conservation and site alteration by-laws. At that time, municipalities were in the process of completing amendments to official plans and by-laws to bring them into conformity with the Plan. MMAH stated that a vast majority of municipalities have by-laws in place; 21 of 25 municipalities have site alteration by-laws and 23 of 25 municipalities have tree conservation by-laws. MMAH informed the applicants that the *Municipal Act, 2001* is subject to an upcoming review and invited them to submit comments through that review process.

MOE pointed the applicants to the existing provisions under the *EPA* that regulate contaminated soil. MOE stated that it is developing best management practices for fill management, but provided no

additional information on an expected timeline for completion or how the applicants could participate in its development and review.

MNR stated that the ARA regulates fill importation into depleted aggregate operations through approval of site plans. MNR stated that of the existing aggregate sites under license on the moraine, 22 per cent can import fill. MNR stated that its inert fill policy “uses a precautionary and science-based approach to prohibit the use of fill that may introduce contaminants that cause or may cause an adverse effect”. MNR advised the applicants that in 2008 its inert fill policy underwent a review. MNR also provided the applicants with information on its Management of Abandoned Aggregate Properties Program and stated that additional environmental protection is provided through other legislation such as the *Environmental Protection Act*, *Clean Water Act*, 2006, *Conservation Authorities Act* and the *Municipal Act*, 2001.

Transportation, Infrastructure and Utilities

MMAH stated that the concerns raised by the applicants relate to the rigour of the environmental assessment process and are not specific to the geography of the moraine. MMAH stated that it is continuing to address these issues on a broader provincial or Greenbelt-wide scale, rather than limited to the geography of the moraine, as it will have a greater impact and make better use of staff resources than a review focussed solely on the moraine. MMAH highlighted that the government has undertaken work to ensure that the policies of the Plan are considered throughout the planning and implementation of infrastructure projects, such as MTO’s Environmental Guide for Wildlife in the Oak Ridges Moraine (2006). MMAH also stated that MTO is developing a new approach to address the policies and objectives of the Greenbelt Plan as part of the Niagara to Greater Toronto Area and Greater Toronto Area West Corridor planning initiative.

MOE explained that municipal official plans and by-laws are required to conform to the Plan and that, when planning for infrastructure, the need for infrastructure works and their location are guided by official plans and by-laws, provincial plans and policies; and broader regional growth patterns and decisions. MOE stated that class environmental assessment parent documents and codes of practice are regularly reviewed and updated. MOE advised the applicants that several class environmental assessments, including the municipal class environmental assessment, already require compliance with provincial plans, including the Plan. MOE stated that the next five-year review of the municipal class environmental assessment will be initiated in 2012 and the ministry committed to consulting with the Oak Ridges Moraine Foundation during the review.

Water Management

MOE stated that existing legal provisions around water management safeguard against environmental harm. For example, water taking limits and other conditions are placed on permits to take water to protect aquatic ecosystems and prevent unacceptable interference with other water users. MOE stated that cumulative impact assessment at the local scale is considered during the review of permit applications under certain circumstances, such as low water conditions. MOE explained that the Water Taking Regulation was reviewed and revised in 2004 and MOE anticipates that the program will be improved over time as a result of the Great Lakes – St. Lawrence River Basin Sustainable Water Resources Agreement, 2005 and the completion of source protection assessment reports and source protection plans.

MMAH stated that more than half of the municipalities in the moraine have completed or are in the process of completing watershed plans. In cases where municipalities have chosen not to complete a watershed plan, the Plan prohibits major development from taking place. MMAH also stated that: it prepared a series of technical papers to assist the implementation of policies and technical requirements of the Plan (e.g., preparation of watershed plans, water budgets and water conservation plans); and MOE also identified the areas of high aquifer vulnerability under the Plan.

Monitoring

MMAH stated that it is currently leading an inter-ministry team with MOE and MNR to develop performance measures for the policies of the Plan, the Greenbelt Plan and the Niagara Escarpment Plan. It is currently collecting and analysing data to support Greenbelt wide performance measures and intends to coordinate the performance monitoring review between the Plan, the Greenbelt Plan, and the Niagara Escarpment Plan.

Auditing

MMAH stated that its focus is on measuring the effectiveness of outcome-based policies through the development of a performance measures initiative. It stated that it works with municipalities through the One Window Planning Service to bring official plans and zoning by-laws into conformity with provincial plans. MMAH indicated that the majority of municipalities have brought their planning documents into conformity with the Plan. MMAH also stated that staff provide assistance to municipalities in interpreting the Plan's policies so that planning decisions conform with the requirements of the Plan.

Transitional Provisions

MMAH stated that the moraine has the strictest transition policies of all the provincial plans. MMAH also stated that the *Greenbelt Act* amended the *ORMCA* to address the broad interpretation of the transitional provisions to specify that grandfathering of approvals applies only to approvals required to implement a decision made on a subdivision, consent or condominium application.

Ongoing Support for Stewardship, Land Securement, Education and Research and Sustainable Lifestyle and Livelihood

None of the ministries specifically addressed the applicants' concerns related to ongoing support for stewardship, land securement, education and research or the request to amend the range of permitted uses in certain areas of the moraine.

ECO Comment

The Oak Ridges Moraine is one of southern Ontario's important landforms. Like the Niagara Escarpment, the moraine requires special consideration to ensure its long-term conservation. The ECO is disappointed that the ministries have delayed considering some of the applicants' concerns until the 2015 review of the ORMCP. The ECO acknowledges that the various regional plans are interconnected and do deserve an integrated and comprehensive review. That said, there is no reason why MMAH, MOE and MNR need to wait in order to address many of the issues cited by the applicants. Many of these matters deal with the implementation of the Plan, not the Plan itself, and warrant immediate attention. For example, after a decade, MMAH has failed to monitor the Plan's implementation and develop performance indicators to assess the Plan's effectiveness in protecting the land and waters of the moraine.

Furthermore, while a combined regional plan review may be reasonable, the ECO cautions that such a review should not erode the legal protections provided for the moraine in the *ORMCA* and its Plan. This review must not result in a shifting to a lowest common denominator of protection, but rather should lead to more enlightened provincial planning that recognizes and protects special landscapes. The applicants raised valid concerns regarding the Plan's implementation that could be addressed before the 2015 review. Many of these concerns have also been raised by the ECO in past Annual Reports.

First, to deliver on-the-ground results, technical and local rules need to conform to and reflect the protective philosophy of the Plan; otherwise, good intentions will remain only as good intentions. For example, in our 2005/2006 Annual Report, the ECO recommended that MMAH, MTO, MNR and MOE develop technical guidance regarding municipal roads in the moraine. While MTO has developed some technical guidance, supplementary guidance for regional and local roads is still outstanding. The ECO again urges these ministries to clarify how "need" and "reasonable alternatives" for infrastructure projects

are to be determined under the Plan and to ensure that relevant class environmental assessment guidance documents conform to the intentions of the ORMCP.

Second, the ECO believes that MMAH should utilize its powers under the *ORMCA* to ensure that all municipalities on the moraine enact tree conservation and site alteration by-laws, as well as providing guidance on what these by-laws should contain. Tree cutting and site alteration can degrade the moraine's natural habitat and water resources, and municipal by-laws are the important mechanism used to regulate these activities. Not all municipalities on the moraine have passed these by-laws and, where they do exist, no assessment has been conducted to determine consistency or effectiveness in protecting the moraine. Third, to ensure protection of the moraine's hydrological integrity – one of the main objectives of the Plan – MOE should require that permits to take water conform with the Plan. MOE should also consider the cumulative effects of water taking from the moraine when issuing all permits to take water. Currently MOE may require a cumulative impact assessment in certain cases, such as low water conditions. The ECO also reiterates a recommendation made to MMAH in our 2010/2011 Annual Report that the ORMCP be amended to ensure that moraine groundwater is protected from development outside of the moraine.

Finally, the importation of commercial fill into the Oak Ridges Moraine, and other areas surrounding the Greater Toronto Area, has become a contentious issue because the rules guiding its management are confusing and sometimes ineffective. With the increase in construction of high-density residential developments, the need for sites to deposit fill from brownfield re-development is also increasing. Often former aggregate pits in rural areas become the final destination of this “compromised” fill which is not suitable for certain land uses but not considered waste. The ECO previously cautioned that it will be critical to test commercial fill imported to rehabilitated aggregate sites to prevent unintended site contamination (for more information, see the Supplement to our 2008/2009 Annual Report). In April 2012, MOE released a draft “Soil Management – A Guide for Best Management Practices” for review without posting on the Environmental Registry, as is required by the *Environmental Bill of Rights, 1993*, but advised the ECO that a more complete version will be posted on the Environmental Registry. The best management practices contain recommendations, not requirements, for the management of excess soils generated from redevelopment and construction projects and therefore, provide limited clarity. To bring clarity to the rules, the ECO believes that MOE and MNR should conduct a policy review of the management and disposal of “compromised” earth material and that the ministries’ Statement of Environmental Values should guide such a review. Any new “compromised” soil management approach should be precautionary, consider cumulative effects, and be designed to protect aquatic and terrestrial ecosystems.

Review of Application R2011009:

2.2.2 Enabling the Use of Local Improvement Charges for Energy Improvements on Private Properties (Review Denied by MOE and MMAH)

This application was reviewed in conjunction with R2011008 (MOE). Please see Section 2.1.14 of this Supplement for the full review.

2.3 Ministry of Natural Resources

Review of Application R2010018:

2.3.1 Policies for the Issuance of Cage Aquaculture Licenses (Review Denied by MNR and MOE)

Keywords: cage aquaculture; Class Environmental Assessment; water quality; Great Lakes; phosphorus

Background

In March 2011, applicants representing the Georgian Bay Association submitted an *Environmental Bill of Rights, 1993 (EBR)* application requesting a review of the policies that guide the assessment, approval and regulation of cage aquaculture licences. The ECO sent the application to the Ministry of Natural Resources (MNR) and the Ministry of the Environment (MOE).

In Ontario, there are nine cage aquaculture operations in Lake Huron and Georgian Bay that use net-pens anchored in open water. These commercial operations raise rainbow trout (*Oncorhynchus mykiss*) primarily for human consumption. Rainbow trout are not native to the Great Lakes; however, rainbow trout have been stocked for over 100 years and self-sustaining populations are well established in the Great Lakes.

MNR is the lead provincial regulator of cage aquaculture through the issuance of licences under the *Fish and Wildlife Conservation Act (FWCA)*. It also has jurisdiction over the use of Crown lands, including the issuance of land tenure under the *Public Lands Act*. The use of a Great Lake lakebed for cage aquaculture is a disposition of Crown land. All dispositions of Crown resources must follow the process set out in the Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects (Class EA) under the *Environmental Assessment Act (EAA)* administered by MOE. While the Class EA provides additional direction for other types of Crown land dispositions such as existing Crown land cottage lots, it does include a single reference to cage aquaculture operations.

Class Environmental Assessment Screening

The applicants requested that MNR conduct a full and public review of the Class EA screening process used to determine how cage aquaculture operations are classified. Under the Class EA, MNR screens projects to identify potential environmental effects and then assigns them a category that outlines the level of review and public consultation required.

Since 2005, MNR has classified nearly all cage aquaculture licences posted on the Environmental Registry as Category A projects – i.e., projects with potential for low negative environmental effects and/or public or agency concern. Category A projects do not require public consultation. MNR classified one project as Category C but it was withdrawn because the proposed sites were not suitable for rearing rainbow trout.

The applicants suggested that MNR use a more precautionary approach in analyzing the effects of each operation, since the nearshore waters of the Great Lakes are currently under stress. The applicants noted potential for detrimental cumulative effects from all cage aquaculture operations. While phosphorus concentrations in the offshore areas of Lake Huron are good, from an ecological perspective, the nearshore areas are deemed “poor” due to elevated phosphorus concentrations.

Increased phosphorus can stimulate algae growth and biological activity; a process called eutrophication. Sewage treatment plant effluent, agricultural runoff, industrial sources and detergents have released large amounts of phosphorus into the Great Lakes and consequently have been subject to controls and abatement. Cage aquaculture operations discharge untreated phosphorus-enriched waste such as fish faeces and excess feed into the water, where it mainly settles below the pen but also disperses in the water current.

New and Emerging Technologies

The applicants requested that MNR provide the public with its review of evolving technologies in the aquaculture industry and identify the funding MNR and the government of Ontario has provided to research less polluting technologies. The applicants alleged that MNR has not followed its Class EA requirement to consider alternative technologies or practices when assessing project applications. Specifically, the applicants claim that as part of its Class EA reviews, MNR has never compared existing cage aquaculture operations with new and emerging technologies, such as floating and land-based closed tank systems to collect and treat waste.

Closed containment technologies try to restrict and control interactions between farmed fish and the external aquatic environment. These emerging technologies enclose fish in floating containers in the water or in land-based farms. Environmental groups are encouraging the use of closed containment technologies in both marine and freshwater commercial aquaculture operations to reduce potentially negative effects on the surrounding natural aquatic environment. While there are currently no closed systems for commercial marine aquaculture operations, closed containment systems exist, and have existed for years, for coho salmon and rainbow trout in freshwater. Energy requirements, management of waste and costs are cited as reasons the technologies are not being widely adopted. Pilot research projects are being conducted in other provinces, for example in St. Andrews, New Brunswick where Atlantic salmon will be raised in a freshwater closed-containment system, but none are planned for Ontario.

Aquaponics is another form of new technology that links aquaculture with hydroponic vegetable, flower or herb production. It uses the waste from fish production as nutrients for plant growth. Some systems re-use water through biological filtration and recirculation. There are examples of commercially viable systems in use or development, for example the North Carolina State University system, the Speraneo system in Missouri, and the University of the Virgin Islands system. Most commercial aquaponic systems in North America raise tilapia.

MNR approvals do not require operators to collect cage aquaculture waste. To control the amount of phosphorus discharged, existing cage aquaculture operations are currently licenced for a maximum annual feed source phosphorus input based on the characteristics of the location. For example, MNR allows sites with greater waste dispersion and assimilation capabilities to use higher maximum feed input. Operators are required to report incidences of elevated nutrient concentrations, oxygen depletion, fish escapes and other items.

Phosphorus Loadings

MOE and MNR use a coordinated approach to protect water quality near aquaculture operations as MOE does not issue specific permits or licences for cage aquaculture. MOE reviews cage aquaculture applications and provides MNR with recommended site-specific licence conditions related to quotas of phosphorus contained in feed, water quality and sediment monitoring and reporting. MOE requires that water quality samples surrounding an operation meet Provincial Water Quality Objectives (PWQO) for total phosphorus and dissolved oxygen. While cage aquaculture operations do not require approval under the *Ontario Water Resources Act*, land-based aquaculture operations and municipal wastewater treatment plants do.

The applicants requested that MOE review its cage aquaculture licence policies to ensure phosphorus pollution standards are in line with the policies regulating other industries and municipalities, such as

wastewater facilities. The applicants estimated that 46 tonnes of untreated phosphorus enter the water from cage aquaculture in Ontario each year, equivalent to the discharge from three large municipal wastewater treatment plants on Georgian Bay. The applicants caution that should the industry expand, as anticipated by the Northern Ontario Aquaculture Association, the amount of phosphorus loaded into the lake would also increase.

The State of Lake Huron

Lake Huron is an oligotrophic lake, which means it is an aquatic ecosystem naturally low in nutrients. An international goal for the Great Lakes Water Quality Agreement, Annex 3 (1987) is to maintain the oligotrophic state of Lake Huron. Generally speaking, concentrations of phosphorus in Lake Huron have been maintained or decreased since the 1970s. Some localized nutrient enrichment problems exist in some nearshore and embayment areas.

Ministry Response

Ministry of Natural Resources

In May 2011, MNR denied this application for review. As a reason for denial, the ministry stated that it provided the public with the opportunity to review and comment on its legislation and policies relating to aquaculture during their development and that these policies are subject to periodic review. MNR also stated that the public has the opportunity to comment and access information on individual applications for cage aquaculture licences. The ministry stated that it voluntarily posts information notices on the Environmental Registry with a 45-day comment period for all cage aquaculture licence applications on Crown lakebeds. However, the ECO has noted in past Annual Reports that aquaculture licences are prescribed instruments under the *EBR* and should be posted on the Environmental Registry if the operator is required to submit a detailed ecological risk analysis to MNR or if the operation is in water covering Crown Land (e.g., the Great Lakes). It is MNR's position that the *EBR* provisions for consultation or appeal do not apply to licences for cage aquaculture in the Great Lakes or over Crown Land because of an *EBR* exemption for instruments that are part of an approved project under the *EAA* (for additional information, refer to our 2009/2010 Annual Report).

MNR stated that it screens each application for Crown land tenure in association with a cage aquaculture operation on a case by case basis under the Class EA to determine potential environmental effects of the project. For example, MNR assigned four recent applications to Category A because the operations have been in existence for many years, the operations previously underwent an environmental assessment and no significant changes were proposed to the current operations.

MNR stated it “fosters support for the development and use of innovative and green technology in the aquaculture industry that will reduce environmental impacts” through the regulatory process, for instance, by authorizing changes to operations and, where applicable, enabling the use of technologies to reduce the potential of fish losses due to structural damage from severe weather. MNR supports the work of the Canadian Council of Fisheries and Aquaculture Ministries to advance innovative and green technologies and participates in a review panel to rank freshwater projects applying for Aquaculture Innovation and Market Access Program funding from Fisheries and Oceans Canada (DFO) and funds fish nutrition research at the University of Guelph.

Ministry of the Environment

MOE determined that a review of this application was not warranted. The ministry stated that it completed a review of existing policies and regulations for open cage aquaculture in response to a separate *EBR* application in 2005. During this review, MOE found that the current approach to managing water quality is protective of the environment with respect to phosphorus. (For more information on the 2005 application for review, please see pages 133-137 of the ECO's 2004/2005 Annual Report.)

MOE advised the applicants that in 2010, MNR initiated a two-phase collaborative stakeholder process. The first phase engaged key stakeholders (e.g., current licensees, interested Aboriginal communities, and the Georgian Bay Association) to make improvements to the licencing conditions addressing sediment-related environmental effects for existing aquaculture operations. MOE stated that the second phase will involve “MOE and MNR working with stakeholders to develop an approach to ensure environmental sustainability for new and expanded aquaculture operations.”

MOE stated that “the current environmental requirements regarding aquaculture are based on the same science and policy as the requirements regarding other dischargers to the Great Lakes (meeting Provincial Water Quality Objectives – PWQOs).” MOE expects facilities to operate in such a manner that water quality in the vicinity of cages is consistent with the PWQOs. MOE is focused on developing and implementing a sediment monitoring regime to “improve control over impacts on lakebed sediment and its invertebrate benthic community.”

For the full text of the ministry decision, please see our website at www.eco.on.ca.

Other Information

In 2009, MNR posted a proposal on the Environmental Registry for the Coordinated Application, Review and Decision Guidelines for Cage Aquaculture Sites in Ontario under the *FWCA* (Coordinated Application, Review and Decision Guidelines) (Environmental Registry #010-0081). These proposed guidelines and decision support tools aim to coordinate the federal and provincial information requirements and approval processes associated with cage aquaculture licence and site applications in Ontario. MNR anticipated that it would finalize the guidelines in 2012.

MNR developed discussion papers on fish health, fish communities, fish habitat, aboriginal concerns, operational concerns, species at risk and navigable waters for the development of the Coordinated Application, Review and Decision Guidelines. In the fish communities’ discussion paper, MNR concluded that it is unlikely that nutrients added from cage aquaculture would be sufficient to lead to eutrophication or oxygen depletion of the Lake Huron system as a whole. However, the ministry noted that aquaculture waste has the potential to cause oxygen depletion within 5 – 20 kilometres of the operation, depending on the rate of release and flushing capacity at the site. MNR stated that “increased nutrient inputs to an oligotrophic ecosystem such as northern Lake Huron, will not harm native fish production, and will likely even enhance fish production, provided that input rates do not exceed local assimilative capacities and lead to severe hypolimnetic oxygen depletion.”

In 2009, MOE also posted sediment and water quality discussion papers for open cage aquaculture in Ontario (Environmental Registry #010-5166). As of May 2011, the ministries have not posted decision notices on these proposals.

For more information about cage aquaculture and MNR and MOE’s policies, please see “Missing in Action: Ontario’s Oversight of Cage Aquaculture” in Part 3.1.1 of the ECO’s 2010/2011 Annual Report.

ECO Comment

The ECO is disappointed that MNR and MOE did not review this application because the applicants’ concerns are valid. MNR and MOE’s existing policies do not appear to address the applicants’ concerns related to the screening of cage aquaculture projects under the Class EA, research or use of innovative technologies to treat and trap waste, and phosphorus pollution standards for cage aquaculture operations. Over the last decade, the ECO has also raised numerous concerns with the government’s regulation of cage aquaculture in the Great Lakes. For example, the ECO has previously commented on MNR’s insufficient public consultation during the issuance or re-issuance of cage aquaculture licences and the ministries’ failure to develop key policies.

MNR noted that the ministry had already provided the public with opportunities to review and comment on its existing aquaculture policies as its rationale for denying the application. While MNR recently provided

public consultation opportunities during the development of the Coordinated Application, Review and Decision Guidelines, other important cage aquaculture policies have not been open to public review since 2000. Also, the ECO is troubled that MNR and MOE did not respond to the applicant's concerns about considering the cumulative effects of all cage aquaculture operations when assessing licence applications. MOE, in particular, has committed to considering cumulative effects as part of its Statement of Environmental Values when making decisions.

Cage aquaculture operations produce waste high in phosphorus which, in excess, can lead to local eutrophication. MNR and MOE do not require cage aquaculture operations to collect and treat their waste, even though the technology is available. Phosphorus loads are instead managed through the use of low-phosphorus feed and water quality monitoring. By contrast, land-based aquaculture and wastewater treatment plants must treat effluent to a certain standard and obtain approval under the OWRA. The ECO believes the current regulatory regime for aquaculture is flawed. First, if MNR and MOE cannot legally classify cage aquaculture as point sources of pollution, these operations should be subject to other specific regulatory controls. Second, the ECO believes that it is not sufficient for water quality near cage aquaculture operations to merely meet the PWQO. Lake Huron and Georgian Bay are naturally oligotrophic, and contain much lower levels of nutrients than the PWQO standards (one half or even one quarter of the PWQO standards in the case of phosphorus). The use of the PWQO as a limit in effect allows large phosphorus loadings, and will eventually allow phosphorus concentrations to increase well above natural levels for this ecosystem and above the total phosphorus concentration objectives for Lake Huron under the Great Lakes Water Quality Agreement. In our 2010/2011 Annual Report, the ECO recommended that MOE update the PWQO for Total Phosphorus to reflect individual lake sensitivity and watershed-level cumulative effects.

The ECO is disappointed that MNR is not adequately encouraging the use and research of new cage aquaculture technology to contain and treat waste. MNR provided examples of how it supports innovative technologies to reduce fish losses in severe weather and funded research on fish nutrition and low-phosphorus feed. Unfortunately, MNR's only stated contribution to technologies that contain and treat waste is sitting on a DFO funding program review panel for projects that support market access initiatives. In MNR's discussion paper on fish communities, it recommended that collection technologies for fish waste be further investigated and their use be potentially expanded in the industry. It is imperative that MNR support cage aquaculture research to address water quality concerns from excess waste.

The applicants raised valid concerns on the screening process used to determine the class EA classification of cage aquaculture operations. MNR reassured the applicants that it screens operations on a case-by-case basis yet MNR placed nearly all cage aquaculture licences approved since 2005 in the category of lowest public consultation requirements and potential for low negative environmental effects. This seems remarkable given that cage aquaculture waste has the potential to cause local eutrophication. In addition, the Class EA does not provide sufficient direction for cage aquaculture operations, only general provisions for the disposition of Crown land. It is also unclear how MNR considers the cumulative effects of all cage aquaculture operations in Lake Huron and Georgian Bay when assessing licences. MNR should review and amend the Class EA to better address potential negative environmental impacts of cage aquaculture operations.

Review of Application R2011001:

2.3.2 Review of the Forest Management Planning Manual, 2009 (Review Denied by MNR)

Keywords: Algonquin Provincial Park; forestry; provincial parks

On April 21, 2011, two individuals (“applicants”) filed an application for review under the *Environmental Bill of Rights, 1993 (EBR)* of the Ministry of Natural Resources’ (MNR’s) Forest Management Planning Manual (the FMPM or “Manual”). The applicants contend that the methods used by MNR to determine “sustainability” in forest management, as described in the Manual, are flawed. They further state that the Manual fails to require a calculation of a natural benchmark to compare the impacts of forestry to baseline forest conditions. The applicants included a case study to support their argument, examining how methods in the FMPM were used to determine sustainability of forest operations in the Algonquin Provincial Park Forest Management Plan (“Algonquin Park FMP”). This application was denied by MNR on July 6, 2011.

Background

Commercial forestry in Ontario is largely regulated through the *Crown Forest Sustainability Act, 1994 (CFSA)*. The purpose of the *CFSA* is “to provide for the sustainability of Crown forests and, in accordance with that objective, to manage Crown forests to meet social, economic and environmental needs of present and future generations.” The *CFSA* defines “sustainability” as “long term Crown forest health”; where forest health is “the condition of a forest ecosystem that sustains the ecosystem’s complexity while providing for the needs of the people of Ontario.”

Commercial timber harvesting activities occur in 42 designated forest management units within Ontario’s Crown lands. Before an area can be commercially harvested in Ontario, a forest management plan (FMP) must be developed and then approved by MNR. FMPs are authored by either an MNR District Manager or by an individual from an organization such as a sustainable forest licensee, and are developed by an interdisciplinary forest management planning team. FMPs are developed for a 10-year period and include several components, such as: descriptions of the management unit; long-term management direction; planned operations and monitoring programs; and a determination of sustainability of the forest. FMP development is guided by four regulated MNR manuals, including the FMPM. The ministry provides further direction in forest management guides, such as the Forest Management Guide for Great Lakes-St. Lawrence Landscapes (the “Landscape Guide”).

The *CFSA* requires that a Local Citizens Committee be established for each forest management unit to advise the Minister of Natural Resources on the preparation and implementation of forest management plans. The role of the Local Citizens Committee includes bringing local issues into the process; participating in the development, identification and description of objectives, strategies, problems and issues, as well as promoting integration of all interests by participating in the evaluation of trade-offs made during the planning process.

Forest Management Planning Manual (FMPM)

The FMPM states that it is the “pivotal document that provides direction for all aspects of forest management planning for Crown lands in Ontario.” The FMPM sets out the requirements of the *CFSA*, as well as many of the conditions set out in Declaration Orders MNR-71, MNR-71/2 and MNR-74 under MNR’s Class Environmental Assessment Approval for Forest Management on Crown Lands in Ontario. The Manual establishes a cycle for forest management planning in Ontario that includes the development of the FMP, implementation of annual work schedules, monitoring through Independent Forest Audits, and assessment in Annual Reports. As required by the *CFSA*, the FMPM also describes the process for determining if the harvest operations to be carried out under an FMP are sustainable for the purposes of the Act.

There are currently two versions of the FMPM in use: the FMPM 2004 provides direction for forest management planning for FMPs scheduled for renewal between April 1, 2007 and March 31, 2012; and the FMPM 2009, which is to be used in FMPs scheduled for renewal after March 2012 and for the Whitefeather Forest. The draft FMPM 2009 was posted for public consultation on the Environmental Registry (#010-5349) in December 2008 for 63 days, receiving 21 comments; the Manual was finalized in December 2009.

Determining Sustainability in Forest Management

As noted above, a key purpose of the *CFSA* is to “provide for the sustainability of Crown forests” in Ontario. In order to translate the abstract concept of sustainability into practice, the FMPM requires each FMP to include a section termed a “determination of sustainability.”

The completion of the determination of sustainability for an FMP involves several steps (for definitions, see Table 1): (1) development of management objectives; (2) assessment of the achievement of the management objectives; including consideration of whether or not desirable levels will be achieved in the plan period or in the future; (3) development of long-term management direction, including targets to be met for each indicator; and (4) a conclusion that the forest management plan provides for the sustainability of the Crown forest in the management unit.

Table 1. Definitions: Determining sustainability in forest management planning

Term	Definition	Time Frame	Responsibility	Example (from Algonquin Park Forest Management Plan, 2010)
Management objective	A statement of a quantitative or qualitative desired future forest benefit or condition developed specifically for the management unit to be achieved through forest management planning and/or the manipulation of forest cover	Long-term (beyond scope of 10-year planning period)	Some objectives are required by the <i>CFSA</i> ; others can be identified by the planning team, Local Citizens' Committee, or the public. Objectives must also consider the <i>Endangered Species Act, 2007</i> .	To maintain wildlife habitat for forest-dependent provincially and locally featured species in the Algonquin Park Forest.
Indicator	A systematically measured and assessed quantitative or qualitative variable, which when observed periodically, demonstrates trends	N/A	Some indicators are set in the FMPM or MNR direction; other indicators are determined by the planning team, with possible input from Local Citizens' Committee and the public.	Area (ha) of preferred wildlife habitat for the selected species.
Desirable level	A measurable amount (i.e., specific number, range or trend) for an indicator to be achieved and maintained over time	Aim to achieve within the 10-year planning period or over the long term	If a desirable level is not provided by MNR direction (e.g., in forest management guides), established locally by planning team with input from Local Citizens' Committee; refined through scoping analysis.	To achieve levels of preferred wildlife habitat for selected species greater than or equal to 75 per cent of the natural benchmark.

Target	A measurable amount (i.e., specific number, range, or trend), for an indicator to be achieved within a specific timeframe. Targets should be close to the desired level for each indicator, or moving towards that level.	Aim to achieve during the 10-year planning period (assessed in Year 7 and Year 10 Annual Reports)	Planning team, with possible input from Local Citizens' Committee and the public.	To achieve a level greater than or equal to the desired level by term.
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The FMPM 2009 states that the final determination of sustainability will: “describe how the forest management plan provides for the sustainability of the Crown forest on the management unit,” including a discussion on achievement of management objectives; provide rationale for any management objectives for which targets and/or desirable levels are not achieved; and, “provide a conclusion that the forest management plan has provided for the sustainability of the Crown forest.”

Although the FMPM 2009 does identify a minimum set of criteria and indicators for sustainable forest management, MNR does not set any required targets for these indicators to be met across the province. Instead, targets are set by individual forest management planning teams, with input from the Local Citizens' Committee and the public, on a plan-by-plan basis. These targets are not independently reviewed at the time of the plan's development. However, the targets could be examined later by an independent forest auditor.

Natural Benchmarks and Simulated Ranges of Natural Variation

Forest management planning requires the use of strategic modelling tools and other types of information systems to assist in planning over the short, medium and long terms. These computer programs are used to model what might happen to a particular forest within a natural disturbance regime over time. Such simulations have been used in Ontario to set targets for particular management objectives, under the assumption that forestry activities will emulate these natural disturbances. The FMPM sets the minimum requirements that such support systems must meet.

The FMPM 2004 directed forest management planners to document inputs and results of a “natural benchmark” investigation in the analysis package for the FMP. The FMPM 2004 describes a natural benchmark as “an investigation of how the forest is expected to develop in the absence of human intervention (i.e., through growth, natural succession and natural disturbance).” When setting targets for management objectives, the natural benchmark calculation was used to provide a quantitative basis for comparing projected forest management plan outcomes with the outcomes that would be realized from the existing forest, growing into the future with no human intervention.

The FMPM 2009 does not require or make mention of a natural benchmark. However, the 2010 Forest Management Guide for Great Lakes-St. Lawrence Landscapes describes the use of simulated ranges of natural variation (SRNV) for forest values. SRNVs are estimates, derived from landscape disturbance and succession models, which simulate the adaptive cycles of landscapes as they might occur without human intervention. The SRNV output represents the range of probabilities for the natural forest in the future. MNR states SRNVs provide an improved, science-based approach to determining natural forest conditions; and further, that using SRNVs “replaces the need to model a natural benchmark run in order to determine desirable levels for forest diversity objectives.”

Both types of models (natural benchmark and SRNV) are intended to determine future forest conditions in the absence of management, i.e., harvest or fire suppression. However, the starting points of the models differ: SRNVs are based on pre-industrial conditions of the forest, while natural benchmark calculations are built from current forest conditions (which do not take into account previous harvesting or fire-suppression activities and their impacts on the ecosystem.)

SRNVs for forest diversity and forest cover indicators are produced by MNR science staff and provided to planning teams. Although the FMPM 2009 does not require it, planning teams may still use the natural benchmark calculation if desired.

The SRNV process has only been formally introduced for the southern portion of the province in the Great Lakes-St. Lawrence Forest. The equivalent boreal landscape guide has yet to be released; however, the SRNV approach will be taken for the boreal forest as well. A SRNV-type model will also be used in species at risk planning, e.g., in determining cumulative impacts on caribou ranges.

Algonquin Park Forest Management Plan

Algonquin Provincial Park is Ontario's first provincial park and was established in 1893, partly in reaction to increased pressure to convert its forests to agricultural land. Algonquin is the only provincial park in Ontario in which commercial timber harvesting occurs. The most recent Algonquin Park FMP was completed in 2010 and covers the planning period from April 1, 2010 to March 31, 2020. The Algonquin Park FMP was prepared in accordance with the 2004 version of the Manual.

In its determination of sustainability, the Algonquin Park forest management planning team concludes that plan objectives are being met and progress is being made towards the desired forest and benefits. The plan concludes that "based on the results from the collective achievement of objectives, the spatial assessments and the social and economic assessment, the Management Strategy provides for the sustainability of the Algonquin Park Forest." The Local Citizens' Committee report noted that although the majority of the committee members supported the final plan, one member had a dissenting opinion and was not satisfied that the best interests of the Algonquin Provincial Park forest ecosystem were being considered in the FMP; the committee member was concerned that loss of biodiversity and wildlife habitat were not given sufficient importance.

Summary of Issues

The applicants identified two concerns they felt were problematic in the FMPM 2009.

First, the applicants stated their belief that "the determination of sustainability set out in the Manual is flawed and based on circular logic." The applicants contend that in the FMPM, no independent analysis of set targets is required to determine whether or not forestry activities are, in fact, ecologically sustainable. The applicants stated "planners can set the timber harvest targets at a high level, and set low targets for biodiversity and wildlife habitat, and if these objectives are achieved, the plan is considered sustainable." The applicants suggested that "in order to avoid the consequences of the Manual's (flawed) circular reasoning approach; an independent assessment of the validity of sustainability targets is required." The applicants conclude that without such an independent assessment, "the declaration of sustainability in the 2009 Planning Manual is not valid."

Second, the applicants stated that "by removing the requirement to calculate the natural benchmark, the outcomes reported are not tied to an objective reality and, consequently, do not reflect sustainability." They stated their belief that this is a major methodological error, because "it will not be possible to compare the results under the management plan with the natural evolution of the forest...This removes a major tool for determining sustainability and, ultimately, whether the mandate of the *Crown Forest Sustainability Act, 1994 (CFSA)* has been met." The applicants further contended that "removing the requirement to calculate the Natural Benchmark will make it difficult for the public to participate in developing a Forest Management Plan."

The Algonquin Park Forest Management Plan 2010-2020

In an appendix, the applicants included a summary of the concerns they had regarding how the FMPM was used in the development of the Algonquin Park FMP. The applicants stated that although the Algonquin Park FMP was prepared under the FMPM 2004 guidance, the determination of sustainability

was the same and provided a good example of its circular definition. The applicants further state that the FMPM 2009 allows forest management planners “to create an unsustainable plan by manipulating the data and planning steps to harvest a high volume of wood at the expense of wildlife habitat and biodiversity.”

The applicants contend that:

- the Strategic Forest Management Model (SFMM) used in the Algonquin Park FMP was never tested in the Great Lakes-St. Lawrence region, and has never been subject to independent review – potentially leading to errors in evaluating the impacts of forest management on Algonquin ecosystems;
- the Algonquin Park FMP does not restore white pine to historic levels;
- the Local Citizens Committee, advising in the forest management planning process, were “presented with false choices” by the ministry’s planning team and were not provided other options;
- harvest of hemlock, an important tree species for wildlife habitat, was set at unsustainable rates that are higher than needed to supply local mills and maintain local jobs; and,
- wildlife population monitoring required by the *CFSA* was not completed prior to the development of the FMP.

Ministry Response

MNR denied the review on July 6, 2011. The ministry had two reasons for not undertaking the review: (1) the decision to approve the FMPM 2009 (with the current determination of sustainability and without requirement for calculation of a natural benchmark) was made during the five years preceding the date of the application for review; and (2) the decision to approve the FMPM was consistent with the intent and purpose of Part II of the *Environmental Bill of Rights, 1993 (EBR)*. The ministry stated that it had determined that “the public interest does not warrant a review of the matters raised in this application for review.” MNR further stated that the FMPM 2009 “incorporates peer-reviewed science in providing a process to set targets for forest landscape structure and composition and determine if proposed forest management activities provide for the sustainability of the forest.”

MNR described the consultation process conducted prior to its decision to approve the FMPM 2009. The ministry stated that one of the comments it received in response to the proposal notice on the Environmental Registry related to the determination of sustainability. At the time, the ministry had considered this comment and concluded that the provisions in the revised FMPM 2009 were consistent with the purposes, principles and requirements of the *CFSA* and that no change was required.

The ministry also described another comment it had received related to the removal of the natural benchmark calculation. MNR stated that it considered this comment and “determined that the natural benchmark calculation was no longer required because desired levels of forest structure and composition were to be based on simulated ranges of natural variation (SRNV) determined through the use of forest landscape diversity simulation models rather than the current forest condition.”

The ministry stated that as it recently submitted a request to the Ministry of the Environment to amend its *Environmental Assessment Act* coverage for forest management activities on Crown land (i.e., Declaration Orders MNR-71 and MNR-74), that the ministry would likely undertake a revision to the FMPM 2009 as a result of these amendments.

In its conclusion, MNR stated that the application for review did not present additional evidence not taken into account when the FMPM 2009 was developed and approved. The ministry also stated that there was “no evidence that a failure to undertake the requested review of the FMPM 2009 could result in significant harm to the environment.”

MNR did not address the applicants’ concerns regarding the Algonquin Park FMP.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO believes that the reason for the ministry denying the application for review is technically acceptable. The ministry's reason was consistent with section 68 of the *EBR*, which states that a minister shall not determine that the public interest warrants a review of a decision that was made within the past five years unless new information is provided.

Nevertheless, the ECO feels that philosophical questions are raised in the movement from modelling future forest conditions using a natural benchmark to simulated ranges of natural variation. The SRNV approach is appealing: since it is based on the pre-industrial condition of the forest, the model accounts for the fact the current "disturbed" forest should not be considered its baseline state. However, without a requirement for a natural benchmark calculation, the ECO is concerned there may be less incentive for the ministry to collect the information that would provide an accurate understanding of the realities at hand in the current forest: for example, through monitoring, annual values identification at the management unit level, or updating of the provincial Forest Resource Inventory. Further, the abstract nature of the SRNV model may be a barrier to meaningful public participation.

Although MNR views SRNV models as a replacement for the natural benchmark calculation, these models have not yet been formally introduced in forest management policy for the boreal forest. However, it appears that recent FMPs in the boreal region are incorporating SRNV modelling prior to the completion of the Forest Management Guide for Boreal Forest Landscapes (and, prior to its required public consultation under the *EBR*). The ECO hopes the ministry will complete this Boreal Landscape Guide in 2012, as committed, and post the guide appropriately on the Environmental Registry.

Under the *CFSA*, ecological sustainability relies on targets set by the planning team. The ECO acknowledges the value in having the planning team set targets with local priorities in mind; however, the normal tension between local economic priorities and ecological priorities suggests there could be a role for an independent third party. The ECO encourages MNR to examine the merits of an independent examination of sustainability of desired levels and targets during the forest management planning process. Further, the ECO hopes any future amendments to the FMPM include a discussion of the determination of sustainability in plain language, to ensure that the public will be able to provide meaningful comment on the process.

Review of Application R2011003:

2.3.3 Impacts of Timber Harvesting Operations on Brook Trout in Algonquin Provincial Park (Review Denied by MNR)

Keywords: Algonquin Provincial Park; forestry; brook trout; fish habitat; provincial parks; Stand and Site Guide

Background/Summary of Issues

On June 16, 2011, two applicants requested a review of the *Provincial Parks and Conservation Reserves Act, 2006 (PPCRA)* and the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales ("Stand and Site Guide") on the grounds that Ontario's forest management policies fail to prevent the degradation of brook trout habitat in Algonquin Provincial Park ("Algonquin" or the "Park"). The ECO forwarded this application for review to the Ministry of Natural Resources (MNR).

Brook Trout

The brook trout (*Salvelinus fontinalis*), also known as speckled trout, is a freshwater fish species native to Ontario and related to salmon, charr and other trout species. Brook trout can take many forms, and range in size, growth and maturation rates depending on local environmental and ecological conditions. Some coastal populations of brook trout are anadromous (i.e., spawn in freshwater but migrate to seawater), while others remain in freshwater lakes and streams, such as Ontario's inland lakes.

Brook trout occupy clear, cool, well-oxygenated waters and can be considered an indicator for water quality and ecosystem health. In Canadian Shield waters, brook trout spawn in gravel beds associated with flowing groundwater discharges, or upwellings, which are supplied by local groundwater recharge areas. Groundwater flow rate is considered a major factor in habitat quality and has been shown to strongly influence reproductive success at spawning sites and survival of young brook trout in nursery creeks. Upwelling sites suitable for spawning are relatively rare and are a limiting factor in brook trout reproduction.

Although the species' natural range across northeastern North America remains mostly intact, local population losses have occurred due to a number of factors, including introduction of other fish species, overfishing, climate change and habitat degradation due to land use practices.

Brook Trout and Forestry in Algonquin Provincial Park

Algonquin Park holds the highest concentration of natural brook trout lakes in the world and is considered one of the few remaining holdouts for brook trout in Ontario. Most of Algonquin's brook trout populations are genetically distinct and have evolved in isolation from others in the province for thousands of years.

Algonquin's brook trout populations – in 240 of the Park's lakes – have been maintained in part due to their relative inaccessibility, as anglers must canoe or portage to reach the lakes. Fisheries researchers are concerned about the negative effects that invasive species, introduced through the illegal use of live bait, could have on aquatic systems (for example, rainbow smelt invasions pose a major threat to lake food webs in the Park: see Chapter 2.1 of Part 2 of the ECO's 2011/2012 Annual Report).

Forestry operations can have an impact on brook trout spawning and nursery habitat. For example, timber harvesting reduces transpiration, which can potentially raise groundwater levels. Shallower groundwater, combined with the loss of the moderating effects of the forest, may result in higher groundwater temperatures. In addition, road construction and aggregate extraction have the potential to disrupt groundwater recharge or flow, affecting habitat quality and availability. Researchers have suggested that warmer incubation periods could have negative effects on brook trout, including lack of food due to early emergence. However, few studies have quantified impacts of timber harvesting and related activities on brook trout habitat in Ontario.

The Algonquin Park Forest Management Plan (Algonquin Park FMP) notes that brook trout warrant specific protection in the Park. The FMP states that logging "appears to have little direct impact on fish communities or their habitat." However, the FMP notes that forestry roads may pose concerns due to: increased sedimentation; changes in hydrology; and increased fishing pressure and potential for introduction of invasive species through illegal use of live baitfish, as forestry roads provide anglers access to remote lakes.

Application for Review

The applicants argue that Algonquin Provincial Park should have more stringent rules for forest management than other Crown forests, in order to maintain its unique ecological characteristics. The applicants requested that MNR undertake a review of the *PPCRA* and the *Stand and Site Guide*, as they believe that these provide insufficient protection for brook trout habitat in Algonquin Park.

Although the applicants maintain that “good forest management can be compatible with the purpose of Algonquin Park,” they stress that “separate stand and site guidance, specific to the Park, is warranted to ensure perpetuation of characteristics that are unique to Algonquin; in this instance, coldwater headwaters and self-sustaining brook trout lakes.”

Request for a Review of the PPCRA:

The *PPCRA* is the primary legislation governing protected areas in the province. The Act outlines purposes and guiding principles for Ontario’s provincial parks system, including that the “maintenance of ecological integrity shall be the first priority” in planning and managing parks. Ecological integrity is defined in the *PPCRA* as “the condition in which biotic and abiotic components of ecosystems and the composition and abundance of native species and biological communities are characteristic of their natural regions and rates of change and ecosystem processes are unimpeded.”

The *PPCRA* prohibits commercial timber harvesting in all provincial parks and conservation reserves – except in Algonquin Provincial Park. Commercial logging is permitted in the Recreation-Utilization zone of Algonquin, which accounts for approximately 78 per cent of the Park’s area. The *Algonquin Forestry Authority Act* provides general direction related to timber harvesting in the Park.

The applicants requested a review of: section 16 of the *PPCRA*, which prohibits commercial timber harvesting in provincial parks and conservation reserves; and section 17, which exempts Algonquin Provincial Park from the prohibition. The applicants stated that by virtue of this exemption, “the Ministry of Natural Resources has not protected the Park’s ecosystems consistent with its status as a Provincial Park;” and as a result, “unique features such as the many self-sustaining brook trout populations found in Algonquin Park are not given special recognition.”

Further, the applicants are concerned with the *PPCRA* clause that allows, with the Minister’s approval, new aggregate pits in Algonquin Park in support of forestry operations. The applicants pointed out that aggregate removal will alter the level and flow patterns of groundwater, such that “aggregate removal can never be sustainable, in the same way that vegetation can, and therefore cannot be rehabilitated; only ‘cosmetically landscaped.’”

Request for a Review of the Stand and Site Guide:

MNR’s Stand and Site Guide guides forest management planning across much of Ontario in issues such as maintaining wildlife habitats and ecological function of aquatic and riparian zones. The Guide notes that the main risks to recharge areas that provide brook trout spawning habitat are hill-slope excavations and ditching associated with road construction or aggregate extraction, which could intercept or redirect groundwater flow. The ministry also notes that soil compaction associated with the creation of landings may also affect water infiltration.

The Stand and Site Guide provides direction and restrictions for timber harvesting and aggregate operations in and around brook trout habitat. The guide sets Area of Concern (AOC) prescriptions for groundwater recharge areas associated with brook trout spawning identified by MNR prior to operations; direction focuses on minimizing risk of interrupting or redirecting groundwater flow or altering infiltration capacity. Normal harvest operations can continue within a mapped recharge AOC without timing restrictions. However, landings and aggregate pits are not permitted; new all-weather roads within the AOC can only be constructed if no practical or feasible alternative exists and appropriate mitigation is taken to minimize the risk of interrupting or redirecting shallow groundwater flow.

The Stand and Site Guide also contains standards and guidelines for harvest operations around lakes, ponds, rivers and streams. To prevent erosion and deposition of sediment into the water, AOCs for shorelines range from 30 to 90 metres in radius, depending on the steepness of the shoreline’s slope and sensitivity of the pond or stream. The guide permits harvest in shoreline AOCs, with some restrictions; for example, harvest must retain levels of residual forest depending on the size of the lake.

Since April 1, 2011, forest management planning teams have been required to follow the policies set out in the Stand and Site Guide when preparing 10-year Forest Management Plans (FMPs) and in planning

operations for second five-year terms. So while the current 2010-2020 Algonquin FMP was finalized prior to when the new direction was required, Stand and Site Guide direction will need to be incorporated in the FMP's second five-year term. The Stand and Site Guide instructs that if AOCs overlap, the most restrictive direction applies to the site unless otherwise directed by MNR. The ministry is required to review the Stand and Site Guide every five years; a review of the Stand and Site Guide is expected in 2015. (For more information on the Stand and Site Guide, please see Part 3.7 of the ECO's 2009/2010 Annual Report.)

Expressing concerns about the impacts of timber harvesting on brook trout and its habitat, the applicants described a number of their concerns with the Stand and Site Guide and its accompanying Background and Rationale Document ("Background Document"):

- The Guide does not provide guidance for nursery creeks, a critical component of self-sustaining brook trout populations;
- MNR has misinterpreted aspects of the relevant literature related to the size of catchment basins required to supply groundwater for brook trout spawning sites, therefore underestimating harmful effects of certain forest management practices;
- Logging operations within AOCs will negatively affect spawning sites and nursery creeks. Further, wood removal, skidding, road building, and accidental introduction of pollutants such as antifreeze and road salt can result in negative impacts such as ground compaction, redirected groundwater flow and pollution that would not occur through natural disturbances;
- Aggregate extraction is only prohibited in the groundwater recharge area, rather than the entire catchment area;
- The Stand and Site Guide requires a glossary of terms;
- Genetic diversity is not considered in the Guide, but the loss of unique Algonquin Park populations would be an unacceptable genetic loss;
- Logging can result in reduced soil-calcium levels, which in turn can negatively affect the aquatic food chain; the applicants suggest MNR consider a moratorium on logging within groundwater recharge AOCs and surrounding catchment areas until this phenomenon is more completely understood; and
- Cumulative degradation of brook trout habitat could result over recurring timber harvesting rotations due to "simultaneous negative factors such as ground pollutants, soil compaction, calcium loss and aggregate removal."

Ministry Response

On November 14, 2011, nearly 75 days after the legislated, non-discretionary deadline for the ministry response, MNR advised the applicants that it was denying the application and would not be conducting a review under the *EBR*.

Request for a Review of the PPCRA

The ministry did not undertake a review of the *PPCRA*, as *EBR* section 68(1) allows a ministry to deny a request to review a decision made in the past five years; the *PPCRA* was passed three days less than five years preceding the date of application for review (June 16, 2011).

The ministry also concluded that the public interest did not warrant a review of the Act due to "minimal potential for harm to the environment if the review applied for is not undertaken, given the application of the provisions of the [*Crown Forest Sustainability Act, 1994 (CFSA)*], the FMP process and the [Stand and Site] Guide with its accompanying Background document," and due to extensive opportunities to participate in the development of the *PPCRA* that were provided to the public when the *PPCRA* was passed.

The ministry stated that it considers that "an [FMP] prepared in accordance with the requirements of the [*CFSA*] meets the requirements for ecological integrity as defined by the *PPCRA*." MNR further stated

that forest management planning requirements provide the flexibility to address the particular needs for the protection of values in the Park, including brook trout lakes and nursery creeks.

Request for a Review of the Stand and Site Guide

The ministry applied the same rationale for denying the applicants' request for review of the Stand and Site Guide: the decision to approve the Guide with its accompanying Background Document was made in 2010, less than the five years preceding the date the application was submitted. However, MNR responded to specific concerns raised by the applicants:

- Although the Stand and Site Guide does not explicitly use the term “nursery creek,” the Guide: provides direction for all streams; imposes additional restrictions where operations have higher potential for negative impacts on fish species and habitats; and provides slope-based AOC prescriptions for streams known to provide nursery habitat and mapped or unmapped permanent and intermittent stream segments within 500 metres of a brook trout lake;
- The interpretations in the Stand and Site Guide are correct and literature used in a fair and objective manner;
- As deposition of sediment associated with the occurrence and location of roads, landings and aggregate pits was identified as the primary adverse effect of forest management operations in shorelines, these activities are prohibited or restricted within shoreline AOCs. The ministry also stated that harvest, renewal and tending operations conducted appropriately “will not cause sedimentation in aquatic features and, therefore, are permitted within a recharge area”;
- The Stand and Site Guide includes a glossary of terms and any terms not defined in the glossary or text were believed to be commonly used and understood by the resource management community;
- Direction for aquatic ecosystems, shoreline areas, and recharge areas associated with brook trout spawning sites in the Stand and Site Guide was developed “to ensure consistent protection of all fish habitat ... regardless of the genetic uniqueness of the fish populations”;
- Despite the potential role of timber harvest on calcium declines in forest soils and aquatic ecosystems, there was “insufficient evidence to warrant inclusion of additional mitigative direction specifically for catchment-scale effects of harvesting on calcium exports to aquatic ecosystems” in the Stand and Site Guide. However, MNR stated that ongoing work in this area should be carefully considered during the 5-year review of the Guide; and
- Assessment of cumulative effects through time requires long term monitoring data for self-sustaining brook trout populations. MNR stated that the province's new Broad Scale Monitoring program for Ontario's lakes will collect data on fish abundance, diversity, health and habitat characteristics; the program's effectiveness in detecting the effects of forest management operations will be investigated further during the review of the Stand and Site Guide in 2015. (Note: For more information on MNR's Broad Scale Monitoring program, see Chapter 2.8 in Part 2 of the ECO's 2011/2012 Annual Report.)

For the full text of the ministry decision, please see our website at www.eco.on.ca.

Other Information

In April 2005, the then-Minister of Natural Resources asked the Ontario Parks Board of Directors to provide advice on how to lighten the ecological footprint of logging in Algonquin. In its 2006 report, the Ontario Parks Board gave considerable weight to the protection of self-sustaining brook trout lakes, including zoning proposals that would provide enhanced protection for 214 self-sustaining brook trout lakes and associated nursery stream habitat. The Board noted that “it is prudent and necessary that additional protection be given [to] brook trout lakes and tributaries, consistent with the principle that ecological integrity is the first priority for management of protected areas.”

In 2009, the Ontario Parks Board and the Algonquin Forestry Authority (AFA) Board submitted joint recommendations for lightening logging's footprint in Algonquin to the then-Minister. The proposal again

took note of the importance of Algonquin's brook trout populations, stating that "MNR and AFA should continue to use strategies to limit access and minimize potential hydrological impacts around brook trout lakes in Algonquin Park" and listed specific measures aimed at reducing negative impacts to brook trout habitat.

Preliminary consultation for an Algonquin Provincial Park Management Plan Amendment was posted on the Environmental Registry in January 2010 (#010-8824). Background information on lightening the footprint of logging in Algonquin was posted for review, including both the Ontario Parks Board's 2006 submission and the 2009 joint proposal. In July 2012, the notice was re-published for a 51-day comment period to review the proposed amendment.

ECO Comment

The ECO accepts MNR's reasons for denying the applicants' request for a review of the *PPCRA*, as the so-called "five year rule" does technically apply. Nevertheless, the ECO believes the request highlights substantive concerns warranting the ministry's attention. The ECO has previously voiced concerns over conflicting management priorities in Algonquin Provincial Park.

The ECO disagrees with MNR's argument that because the Algonquin FMP was prepared in accordance with the requirements of the *CFSA*, it therefore meets the requirements for maintaining ecological integrity as directed by the *PPCRA*. The law prohibits commercial timber harvesting in all provincial parks and conservation reserves – except in Algonquin Provincial Park – for a reason: industrial logging clearly poses a risk to ecological integrity. Legally justifying an activity cannot be assumed to equate with ecologically justifying it.

The ECO strongly urges MNR to fully, publicly review the Algonquin Provincial Park Management Plan, which predates the *PPCRA* and thus does not reflect the Act's legal direction to maintain ecological integrity as the first management priority. Moreover, the Park's 1998 management plan committed MNR to develop specific resource management plans to address aggregate resources, water, vegetation, wildlife, cultural resources, and research; none of these ancillary plans for Algonquin have been developed.

MNR also has failed to publicly respond to any of the recommendations from the Ontario Parks Board and the AFA Board on lightening logging's footprint in Algonquin. Connecting both issues, the ECO echoes the call in our 2005/2006 Annual Report for MNR to undertake a comprehensive public review of its policy to allowing logging in Algonquin.

The applicants' second request was for MNR to review the Stand and Site Guide, due to a perceived lack of stringency for direction to protect brook trout and its habitat from forestry operations. The ECO agrees with the ministry's decision to deny this request since the Guide was finalized within the last five years, but shares many of the applicants' specific concerns about protection of brook trout.

The ECO noted in our 2009/2010 Annual Report that MNR's approach in the Stand and Site Guide to treat "policies as hypotheses" will amount to ill-informed policy directions if monitoring programs are not thorough, well-funded and completed in a timely manner. The ministry expects that tree harvesting, undertaken as directed by the Stand and Site Guide and other forest management guides, is not likely to produce effects dramatically different from natural disturbances. But such an assertion should not be accepted on faith; it needs evidence and objective evaluation. The impacts of increased shoreline harvesting on brook trout are still relatively unknown. Moreover, MNR's effectiveness monitoring program for the Stand and Site Guide has assigned a "low priority" to the question of shoreline harvesting impacts on aquatic systems. Further, although the ministry's Broad Scale Monitoring program will inventory and monitor lakes across the province, it does not examine rivers or streams, which are the applicants' primary concern. The ECO urges MNR to publicly report any research findings regarding shoreline harvesting prior to the scheduled 2015 review of the Stand and Site Guide in order to provide the public with adequate information for useful participation in the review. Given the unique status of Algonquin

brook trout, the ECO also urges MNR to focus research specifically on evaluating the effectiveness of existing forestry practices in maintaining the Park's brook trout populations.

Beyond the direct impacts of timber harvesting operations on brook trout habitat, a primary concern for Algonquin fisheries researchers is the potential for forestry roads – that provide easier access to more remote Park lakes – to spread invasive species through the illegal use of live baitfish. Despite a ban on possessing live baitfish in Algonquin, over 50 per cent of winter anglers in the Park have been found to be in possession of illegal baitfish. Regardless of the fish species targeted by anglers, additional forestry roads amount to additional risk for Algonquin's sensitive species.

Brook trout conservation provides MNR an opportunity to fulfil its responsibilities to the international Convention for Biological Diversity (for more information, see the ECO's 2012 Special Report – Biodiversity: A Nation's Commitment, An Obligation for Ontario). Algonquin's brook trout populations are unique in the world. Further, Ontario is home to other rare or distinctive brook trout populations, including Aurora trout in Temagami and coaster brook trout in Lake Superior. One relevant target set by the Convention aims to develop and implement strategies for minimizing genetic erosion and safeguarding genetic diversity of socio-economically or culturally important species by 2020. The brook trout is a highly valued species across the province and warrants special recognition and planning for the protection for its genetic diversity.

Review of Application R2011006:

2.3.4 Amendments to the Oak Ridges Moraine Conservation Plan (Review Denied by MOE, MNR and MMAH)

This application was reviewed in conjunction with R2011005 (MOE) and R2011007 (MMAH). Please see Section 2.2.1 of this Supplement for the full review.

SECTION 3

ECO REVIEWS OF APPLICATIONS FOR INVESTIGATION

SECTION 3: ECO REVIEWS OF APPLICATIONS FOR INVESTIGATION

3.1 Ministry of the Environment

Review of Application I2010004:

3.1.1 Illegal Dumping and Buried Asphalt (Investigation Undertaken by MOE)

Keywords: asphalt; illegal dumping; road base; recycling

Background

In December, 2010, the ECO received an application for investigation into alleged illegal dumping of asphalt on private property in Wainfleet, Ontario, near Lake Erie. The applicants stated that asphalt and other waste materials had been trucked to and dumped onto this property, in violation of the *Environmental Protection Act (EPA)*, Ontario Regulation 347 under the *EPA* and the *Ontario Water Resources Act (OWRA)*. The *EPA* prohibits the discharge of contaminants into the natural environment that causes or may cause an adverse effect; it also prohibits the dumping or burying of waste (such as waste asphalt) without an environmental compliance approval, subject to some exemptions under Regulation 347. The *OWRA* prohibits the discharge into water bodies of any material that may impair the water's quality.

Prior to the application being filed, the owners of the property in question had submitted a request to the municipality to sever 2.47 acres from their 50 acre property for construction of a new detached dwelling. They had also started the construction of a road and had built several berms along the edge of the property. The applicants included photographs of the berms, showing chunks of asphalt visible on their surface. They also included photographs of piles of asphalt and of areas where it appeared that the asphalt had been spread over part of the property.

The applicants expressed concern that the volume of asphalt and other waste materials dumped on this property would produce leachate that could contaminate groundwater and/or run off into Lake Erie. They pointed out that a culvert running alongside the property takes run-off from the area to Beaver Creek, which in turn empties into Lake Erie. They claimed that this situation could result in health risks and very serious environmental damage. They also stated that the increased elevation of the property, due to the addition of the dumped materials, had caused flooding on neighbouring lands. The applicants asserted no severance should be allowed at the site without a prior investigation and clean-up.

The ECO forwarded the application to the Ministry of the Environment (MOE).

Ministry Response

In March 2011, the ministry agreed to conduct an investigation under the *Environmental Bill of Rights, 1993 (EBR)*. The result of this investigation was reported to the applicants in mid-May 2011.

MOE stated that in January 2011, its staff had been in communication with municipal staff of the Township of Wainfleet, who in turn had undertaken an inspection of the berms on the property. According to MOE, the municipal officials had determined that the owners had used asphalt, concrete and brick materials to construct a road on the property; the municipality at that time required the owners to remove from the berm surficial asphalt not used in the road construction.

As part of its own *EBR* investigation, MOE undertook an inspection of the berm and surrounding property in late March 2011, in the presence of the property owners. MOE identified, on the basis of the applicants' photographs and the municipality's previous findings, five specific areas where a total of ten test pits were required to be dug. These areas were excavated on April 18, 2011, in the presence of ministry staff. Only one of the test pits yielded any asphalt, consisting of three fist-sized pieces. Some asphalt was also found on the surface of the berm. MOE issued an Order to the property owners requiring them to remove this material for re-use on the property as road base.

The ministry also observed that roads on the property were comprised in part of recycled asphalt granular material. As mentioned above, waste materials – such as used asphalt – generally cannot be deposited or buried without an approval. However, section 3(2)17 of Regulation 347 provides an exemption when the recycled asphalt is used as a bed in the construction of roads. In fact, not only is recycling asphalt for road construction permitted under the *EPA*, indeed the ministry encourages this use of recycled asphalt as an acceptable practice.

The ministry's findings from this investigation were that it could not substantiate the applicants' allegation that there had been illegal dumping and burial of asphalt in the berms and that the few small pieces of asphalt found in one of the test pits do not constitute a threat to the environment. As these findings did not provide grounds for concern regarding a threat to the environment, the ministry did not conduct soil or water sampling. MOE reiterated that the use of recycled asphalt as a road base is an acceptable practice that is encouraged by the ministry. Finally, it stated that additional test pits in one area had yet to be dug (wet conditions had prevented this action earlier) and that abatement actions would be carried out by the ministry if any contraventions were found at that time.

Furthermore, the ministry advised the applicants that the severance issue and alleged flooding related to the berm construction do not fall under MOE's mandate.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO agrees with MOE's conclusions and commends the ministry, both for taking on the investigation and for reporting thoroughly and promptly on the issue. It is important that the ministry take these types of concerns raised by the public through the use of *EBR* applications seriously, for they sometimes bring important transgressions to light. In this case, it appears as though the owners of the land in question were in compliance with the law and were engaged in an acceptable construction-related practice.

The ECO also commends the applicants for bringing this matter forward as an application for investigation under the *EBR*. This case provides a good example of how well this process can work: the applicants (and the site's neighbours) got answers to their legitimate questions; the ministry exercised its responsibility well and fairly; and the owners of the land were able to proceed with their project.

Finally, it can be helpful in such cases for property owners to take time in advance to explain to neighbours what they are doing, and why it is acceptable practice. In that same vein, MOE could have improved their report to the applicants by more thoroughly explaining the environmental analysis underlying the ministry's position that recycling asphalt in road beds is a preferred alternative to disposing of it as waste.

Review of Application I2011001:**3.1.2 Alleged Contravention of the *EPA* (Noise Pollution) at the University of Toronto
(Investigation Undertaken by MOE)**

Geographic Area: City of Toronto

Keywords: noise pollution; adverse affect; *EPA*

Background/Summary of Issues

In May 2011, two applicants submitted an *Environmental Bill of Rights, 1993 (EBR)* application for investigation related to the noise of the heating, ventilating and air conditioning (HVAC) equipment at a building at the University of Toronto. The applicants alleged that the noise levels of the equipment constituted a violation of section 14 of the *Environmental Protection Act (EPA)*. The ECO forwarded the application to the Ministry of the Environment (MOE).

Section 14(1) of the *EPA* prohibits anyone from discharging, or causing or permitting the discharge of a contaminant into the natural environment, where it may cause an adverse effect. Among other things, adverse effect is defined in the Act as material discomfort to any person, an adverse effect on the health of any person, and loss of enjoyment of normal use of property.

Sound, resulting directly or indirectly from human activities, that causes or may cause an adverse effect is considered a contaminant under the Act.

The applicants alleged that the noise levels from the constant operation of the HVAC equipment at the building were excessively high. As a result, the applicants alleged, the quality of life in their condominium units nearby had been adversely affected. They stated they could not enjoy the use of their balconies and they were forced to use ear-plugs to sleep. The applicants asserted that they had not seen any other condominium residents using their balconies during the summer months, which they attributed to the continuous noise from the building equipment. In support of their application, the applicants submitted a video clip of the building with its operating HVAC equipment, filmed from the balcony of one of the applicants.

MOE Noise Guidelines

MOE has two guidelines that set out sound level limits from stationary sources: "Publication NPC-205: Sound Level Limits for Stationary Sources in Class 1 & 2 Areas (Urban)" and "Publication NPC-232: Sound Level Limits for Stationary Sources in Class 3 Areas (Rural)." MOE does use the limits when investigating noise complaints to determine potential violations of section 14 of the *EPA*. The guidelines are both dated October 1995. The guidelines consider HVAC equipment of non-residential establishments to be stationary sources of sound. In addition, the guidelines are also included in many municipal noise by-laws enacted under the *Municipal Act, 2001*. The City of Toronto ("City") incorporates the sound level limits in NPC-205 in its noise by-law.

Ministry Response

MOE agreed to undertake the investigation in July 2011. As part of the investigation, in early July 2011, ministry staff accompanied a City of Toronto Municipal Licensing and Standards by-law enforcement officer who took noise level readings at the residence of one of the applicants during the daytime. The purpose of the readings was to determine whether the HVAC system met the City's Noise Control By-law and the ministry standards. At the applicant's request not to visit their apartment during the evening or overnight hours, the by-law officer was not able to obtain readings during that time period. The City's

noise level requirements during evening and overnight hours are more stringent than those for daytime. The by-law officer advised the ministry that there was no violation of the City's Noise Control By-law.

The ministry then met with University of Toronto staff responsible for the operation of the HVAC equipment at the building. Ministry staff viewed the equipment and compared its operation against the conditions in the Certificate of Approval (C of A) MOE had issued for its installation and operation. The ministry found that the equipment had been installed and was being operated as approved. Ministry and university staff discussed the voluntary measures the university might be able to take to reduce the noise levels from the operation of the equipment. At MOE's request, the university retained the services of a qualified person to review the installation and operation of the equipment and produce a noise assessment report to determine measures to reduce noise levels.

In a February 2012 update to the applicants and the ECO, MOE clarified that the university's noise assessment report identified the building's exhaust fans as the source of the noise. Indoor air exhaust fans do not require a C of A under the *EPA*. MOE outlined the actions that the university was taking or planning to take to mitigate the fan noise. MOE explained that the university would have the high speed function of the exhaust fans permanently deactivated by early February 2012. After the deactivation of the high-speed function of the fans, the university would conduct a noise measurement study to determine noise levels reductions. If low-speed running of the fans did not reduce noise levels, the university would install variable speed drives on the fans to further control them during the day and automatically shut the fan system down at night. The university estimated that this work would be completed in the spring of 2014. If fan speed automation did not reduce noise levels either, the university would be prepared to install banks of acoustical fan louvres on each of the building's floors. This option, however, would require more extensive discussion with the Toronto Transit Commission (TTC) as the TTC bus station adjacent to the building might have to close down for several months to accommodate the necessary work.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO agrees with the ministry's decision to undertake the investigation. Although noise concerns are commonly addressed through municipal by-laws, the inclusion of noise as a contaminant under the *EPA* creates expectations for the ministry to address noise pollution incidents. The applicants raised some valid concerns. Excessive noise can be harmful to the health and well-being of people and can interfere with the use and enjoyment of people's property.

MOE's handling of this application is commendable. Even though the sound levels from the HVAC equipment did not exceed the specified limits in the City's Noise Control By-law or in MOE's NPC-205 noise guideline and the equipment was found to have been installed and operating in accordance with the conditions set out in the MOE-issued C of A, the ministry actively encouraged and guided the university to implement voluntary noise mitigating measures.

Over the years, the public has submitted a number of *EBR* applications for investigation related to noise emanating from various sources. Prior to this application, MOE had denied all such requests for investigation of noise concerns. The ECO has encouraged MOE to review its noise criteria not only for stationary sources but also for land use planning. In November 2010, MOE used a policy proposal notice on the Environmental Registry (#011-0597) to solicit public comments on the proposed consolidation of its Stationary Sources Noise Guidelines and its Land Use Planning Noise Guideline into one new Environmental Noise Guideline. As of May 2012, the ministry had not yet posted a decision notice. The ECO may review MOE's new Environmental Noise Guideline after a decision notice has been posted on the Environmental Registry.

Review of Applications I2011002:**3.1.3 Investigation of Dust Emissions Emitted by Essroc Cement Manufacturing Facility
(Investigation Undertaken by MOE)**

Keywords: air pollution; enforcement; MOE

Background

Essroc Canada Inc. ("Essroc") is one of the largest cement producers in Southern Ontario and ships its products worldwide. It has a facility located north of the Town of Picton, on the west shore of Picton Bay ("the facility"). The facility quarries raw materials, produces clinker (end-stage material transformed into portland cement) and portland cement (fine gray powder of calcium silicates, aluminates and calcium sulphates) and has port facilities for Great Lakes shipping. The facility operates under several Environmental Compliance Approvals (Air) issued by the Ministry of the Environment (MOE).

In July 2011, residents living near the cement manufacturing facility ("the applicants") submitted an application for investigation to MOE over concerns of dust emissions from the facility. The applicants alleged that the facility continues to discharge contaminants into the air resulting in an adverse effect contrary to section 14 of the *Environmental Protection Act* (EPA) and section 45 of O. Reg. 419/05 (Air Pollution – Local Air Quality) under the Act. They further alleged that MOE staff mishandled earlier complaints about the facility and have not adequately informed them of ministry actions taken to bring the facility into compliance.

Summary of Issues

Section 14 of the EPA prohibits, except with authorization, the discharge of a contaminant into the natural environment if it may cause an adverse effect. In addition, section 45 of O. Reg. 419/05 prohibits a person from discharging an air contaminant that may cause: discomfort to persons, loss of enjoyment of normal use of property, interference with normal business conduct, or property damage.

The applicants, who reside in the County of Lennox and Addington, approximately two to eight kilometres from the Essroc facility, state the prevailing winds blow northwest to southeast, which places their community directly downwind from the facility. The applicants assert that in the decades the facility has been operating in the area, local residents have considered it to be a problem polluter; residents regularly complain of hard-to-remove dust particles covering their cars, outdoor furniture and windows. The applicants point to ministry investigations conducted prior to the application, in 2008-2010, that revealed the dust to be cement particles. The applicants claimed that on numerous occasions over the years, they observed "catastrophic occurrences" at the facility "that looked like a volcano had erupted" causing a cloud of ash. The applicants asserted that some residents have complained to Essroc, who offered to clean their cars and windows. Other residents contacted MOE for guidance and assistance on this issue.

MOE Air Quality Assessments and Surveys

To support their application for an investigation, the applicants attached and highlighted the findings of earlier ministry air assessments and surveys conducted on the Essroc facility. These reports were triggered by the repeated complaints from the residents.

MOE confirmed that the Belleville District Office was aware of the dust emissions from Essroc's facility as far back as 2003. In 2008 and 2009, the ministry conducted two air quality assessments of the particulate impacts in the Picton area. The resulting MOE reports concluded that "Essroc is discharging contaminants into the natural environment which are causing adverse effects in contravention of s.(14) of the EPA," as well as exceeding the suspended particulate limits set out in O. Reg. 419/05. The 2010

MOE report (based on the 2009 assessment) stated that the cement operations have resulted in deposition and damaged surfaces, and increased particulate concentrations in the air; these effects were reported by the ministry to be occurring five kilometres from the facility. The MOE reports recommended, among other things, that the ministry “take action” to require Essroc to: reduce its particulate emissions into the atmosphere and the resulting adverse effects; and address all contraventions of the air quality standards. The reports further recommended that the ministry consider a revised standard for compliance estimates for Essroc to provide adequate environmental prevention.

The applicants also referenced two particulate surveys that MOE completed in 2008 and 2010 of the Essroc facility and Oakwood Lane (applicants’ residential community) respectively. Both surveys found that the “residents’ complaints are credible and truthful,” and observations and sampling results provided evidence that off-site deposition of particulate, consistent with a cement facility, was occurring. The MOE surveys concluded that “all of the evidence supports the residents’ complaints of adverse effects.”

Alleged Ministry Lack of Action

In the application, the applicants asserted that MOE has not provided them with an adequate response to their repeated requests for information on what action the ministry has taken towards the Essroc facility. They claimed the reason pollution has been allowed to continue is because of Essroc’s economic and fundraising role in Picton.

The applicants reported they met with the Office Supervisor and another staff member of MOE’s Belleville office. As a result, the applicants stated that they learned from MOE that Essroc had approximately 700 exceedances between February and August of 2010. According to the applicants, when asked why these reports were not forwarded to the enforcement branch of MOE to determine if charges would be laid, MOE replied that it was using other measures to bring Essroc into compliance. Later, the applicants spoke with the Supervisor of Enforcement from MOE’s Investigations and Enforcement Branch (IEB) in Kingston who informed the applicants that he was not made aware of these reports until after the two-year limitation period to prosecute an offence under the *EPA* had expired.

The applicants wrote that they were aware that a baghouse was installed in kiln 3 at Essroc’s facility to reduce particulate emissions, but, based on information relayed by Essroc at a community meeting, they were concerned that the baghouse was damaged and no longer being used. Furthermore, the applicants claimed that Essroc was using another kiln (kiln 4) that does not have any pollution prevention devices installed. According to the applicants, when they raised this concern with MOE, they contend that they did not receive an adequate response from the ministry. They stated that they were informed by MOE that Essroc was being required to complete a work plan on how the facility will correct the dust emissions violations at the facility.

The applicants asserted there is “gross inaction” on the part of the ministry and a failure by MOE to enforce its own laws and regulations. They demanded that this matter be transferred from the Belleville office and an investigation be undertaken by the IEB; they also requested that the conduct of the Belleville office be investigated and rectified.

Ministry Response

After reviewing the application for investigation, MOE decided to conduct an investigation based on: the evidence provided; relevant policy, legislation and regulations; technical and expert advice; and information found in ministry files.

In November 2011, MOE completed its investigation and provided the applicants with a summary of its work. The investigation included interviews with staff from MOE’s Eastern Regional Office, Kingston District Office, the Belleville Area Office and the IEB.

The ministry acknowledged that it was aware of public reports of adverse effects from Essroc’s cement manufacturing operations for at least nine years, and confirmed that dust emissions from Essroc’s facility

had caused adverse effects in contravention of the *EPA* and its regulations. MOE asserted, however, that the ministry's compliance efforts have led Essroc to improve its housekeeping activities and indicated that ministry staff would continue working with Essroc to bring further improvements to the facility's stack emission controls and dust control measures.

Contravention of Section 14, EPA and Section 45 of O. Reg. 419/05

MOE's investigation verified the applicants' allegation that Essroc has contravened section 14 of the *EPA* and section 45 of O. Reg. 419/05 under the Act. Dust emissions from the facility "caused an adverse effect as defined by the Act" and caused "one or more of the prohibited effects" outlined in section 45 of the regulation, including the loss of enjoyment of the normal use of property. The ministry acknowledged that the adverse effects were "clearly documented" in the 2008 and 2010 suspended particulate surveys and observations by environmental officers from the Belleville Area office.

The ministry states that since 2003, it has been notified 27 times by residents of adverse effects from dust emissions from the facility. In response, MOE confirmed the presence of dust from Essroc's facility on the complainants' properties and documented its adverse effects. Essroc responded, either at the request of a complainant or the ministry, by cleaning the affected properties.

Allegations of Ministry Inaction

MOE investigated the applicants' allegations that the ministry failed to adequately enforce the regulatory requirements imposed on Essroc, and that it did not forward the technical reports and surveys to IEB for investigation in a timely manner. It refuted the applicants' allegations.

The ministry determined that the Belleville office has responded to complaints about the Essroc facility since it was first notified. The complaints were largely attributed to fugitive dust emissions from activities related to the handling of raw and finished materials. While the emissions from the stacks exceeded opacity standards, MOE determined that this was not responsible for the adverse effects reported. However, the ministry stated that it is working with Essroc to bring the facility into compliance with opacity requirements.

MOE reviewed how the Belleville Area office handled Essroc's non-compliances and resulting adverse effects from the facility. Since 2005, six referrals were made to the IEB office in Kingston, and Belleville abatement staff "required Essroc to take action" to address emissions. The ministry did not specify in its letter to the applicants the nature of the required action.

The ministry also explained that from 2008 to 2010, its technical staff undertook three total suspended particulate surveys to quantify the emissions from the facility and resulting adverse effect. These surveys confirmed the presence of adverse effects. The first survey was forwarded to the IEB in June 2008. The IEB closed the file in May 2009 without pressing charges. The second and third surveys were conducted in response to a November 2008 complaint. Although these surveys were completed in May and September 2010, there was "insufficient time to complete an investigation" and forward the results to the Crown before the limitation period expired. Instead the reports were used to "support their actions in requiring Essroc to reduce its fugitive emissions." Again, the ministry did not provide the applicants with details of these actions.

The ministry stated its most recent "mandatory" measure involved issuing a non-appealable Section 27.1 Notice (under O. Reg. 419/05) on March 28, 2011 that required Essroc to undertake a Technology Benchmarking Review of available technologies to abate fugitive dust. This report was received by the ministry and was under review.

The ministry claimed that in response to its voluntary and mandatory measures, Essroc continues to improve its housekeeping activities such as: watering gravel roads, adding dust suppressant to coal piles and adding soil and seedlings to areas to prevent dust. Essroc also updated its Best Management Practices Plan and will implement site improvements identified in the Technology Benchmarking Report.

The addition of the baghouse on kiln 4 was anticipated to be completed in March 2012, and was expected to result in a reduction of the facility's opacity exceedances.

MOE concluded that the responses of the Belleville office staff to Essroc's non-compliance has been "thoughtful and appropriate," and followed the ministry's compliance policies by escalating the initial voluntary approach to a mandatory one involving several compliance tools to address concerns. The ministry stated that its efforts have resulted in positive results, and it expected further improvements as Essroc undertakes additional improvements to its emission controls. MOE encouraged the applicants to continue their dialogue with ministry staff to assist staff identify and respond to future adverse effects related to Essroc.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO sympathizes with the applicants' frustrations. For years they have lived with cement dust covering their properties and affecting their air quality, despite repeated complaints. While the ECO is pleased MOE undertook the investigation into the fugitive dust emissions from the Essroc facility, the ECO is deeply disturbed by the findings of the investigation that reveal an exceedingly slow and weak response by MOE despite the ministry's knowledge that Essroc's fugitive emissions were causing adverse effects for the applicants and area residents for almost a decade. Furthermore, the ECO is disappointed that the ministry did not specify in its decision letter what voluntary and mandatory actions it required the Essroc facility to perform. It is this information that the applicants sought from the ministry and partly the reason why they filed their application for investigation. Without this information, it is extremely difficult for the ECO to evaluate the reasonableness of MOE's response.

However, the simple fact that the emission problems continue to adversely affect residents after a decade is, in itself, sufficient evidence that MOE has not taken adequate measures in this case. MOE's Compliance Policy: Applying Abatement and Enforcement Tools, 2007 ("Compliance Policy") outlines the various abatement and enforcement tools the ministry can use to address a range of violations of MOE administered legislation. Each incident is evaluated using the Informed Judgment Matrix that determines the appropriate response based on factors such as compliance history, and environmental and health consequences of the violation. Follow-up and ongoing monitoring are also considered components of effective compliance.

The Informed Judgement Matrix indicates that the situation at the Essroc facility would be classified as "Compliance Category II." This category covers situations where there are previous or ongoing violations not resolved despite ministry directions; and there are minor health and medium environmental consequences (i.e., widespread impact to property, animal or plant life; abatement actions are required to restore the environment; loss of enjoyment of property; discharge of contaminants in excess of standards). For matters falling under Compliance Category II, the Compliance Policy recommends stronger mandatory application of tools such as Orders, Environmental Penalty Orders, and use of *Provincial Offences Act* tickets. An IEB referral would be considered for incidents that fall in Category II, except when a *Provincial Offences Act* ticket is used. Furthermore, failure to adhere to measures and timelines outlined in a voluntary abatement plan could result in an Order, direction or notice being issued. The Compliance Policy states that "in no case, will the Ministry tolerate unsatisfactory progress on a voluntary abatement plan beyond six months." It appears that in this case, MOE tolerated unsatisfactory progress for years.

The ministry stated it was aware of these concerns in 2003, yet the air quality assessment and particulate survey reports produced in 2010 still confirmed the occurrence of adverse effects and violations of the *EPA* and O. Reg. 419/05. Since the ministry only identified one mandatory action in its letter, the ECO presumes the majority of the ministry's actions for Essroc were voluntary; and since adverse effects are still occurring at the facility, it appears that voluntary measures were insufficient to rectify the problem. In accordance with the Compliance Policy, the ministry should have escalated its approach more effectively and used stronger mandatory tools such as Control Orders - defined by the Compliance Policy as "one of

the primary mandatory abatement tools available to the Ministry to respond to an incident, because it imposes legal obligations on the person as opposed to allowing the person to deal with the incident voluntarily.” Additional mandatory tools the ministry could have used include: issuing Remedial or Preventive Measure Orders; amending Environmental Compliance Approvals; or charging and fining the facility when ministry evidence indicated that the *EPA* and its regulations were breached.

Furthermore, Essroc’s chronic non-compliance should have triggered MOE to use stronger mandatory enforcement tools much earlier in the process. By over-relying on voluntary measures these adverse effects have been allowed to persist for years without avail. The ministry did not explain why mandatory actions were not required earlier, for instance after the completion of the 2008 reports that confirmed its prior voluntary compliance measures had failed to minimize the adverse effects of the facility. In past reports, the ECO has been critical of the ministry’s over-reliance on voluntary measures and the slow pace of enforcement for chronic offenders or when high risk contaminants were involved. The ECO previously urged MOE to use tougher enforcement tools sooner in these types of situations to ensure prompt compliance.

It is also problematic that the ministry was unable to complete two particulate survey reports before the limitation period to press charges expired. No explanation was provided as to why there was insufficient time to complete an investigation before the limitation period to lay charges expired, or why, after receiving a 2008 report confirming adverse effects from the dust emissions, IEB closed the file in May 2009 without pressing charges. The ECO wonders how many prosecutions of environmental offences are not commenced because the background work cannot be completed within the limitation period for laying charges, as was the case with Essroc. It is unacceptable for MOE to let polluters continue to pollute because it cannot complete its investigation on time. The ministry should assess its investigative capacity and determine whether it is necessary to increase ministry capacity and/or examine the sufficiency of the limitation period in the *EPA*.

Even though a facility may play an important economic role in a community, it should not be allowed to do so at the expense of residents and the environment. The ministry is responsible for creating environmental laws and regulations to protect the health of Ontario’s environment and residents, and for abating and enforcing any breaches of these laws. At a minimum, the ECO would have expected the ministry to respond to Essroc’s fugitive dust emissions by issuing the facility a Control Order, a mandatory enforcement tool designed to handle such incidents. The ECO strongly urges MOE to immediately take appropriate and necessary action to remedy the adverse effects from fugitive dust emissions emitted by the Essroc facility; and to closely monitor the facility’s environmental compliance and promptly respond to future incidents.

Review of Application I2011003:

3.1.4 Odour, Noise and Dust from a Portable Asphalt Plant (Investigation Denied by MOE)

Geographic Area: Horton Township, Renfrew County

Keywords: adverse effect; aggregate pit; air pollution; *Environmental Protection Act*; noise; odour

In October 2011, two applicants requested that the Ministry of the Environment (MOE) investigate a portable asphalt plant in Horton Township (Renfrew County). The applicants alleged contraventions of sections 9 and 14 of the *Environmental Protection Act* (*EPA*) and two regulations made under this Act: Regulation 349 – Hot Mix Asphalt Facilities; and Regulation 346 (which was revoked in 2005 and replaced with O. Reg. 419/05 – Air Pollution – Local Air Quality). The applicants complained that noise from the recently situated plant’s burner, the smell of asphalt from the plant, as well as fugitive and road

dust from road traffic, were having a negative impact on vegetation, property values, and the applicants' enjoyment of property.

Background

The applicants live near the Jamieson Pit, an aggregate pit in Horton Township that crushes, screens and washes aggregate. In addition to having a licence under the *Aggregate Resources Act* to operate the pit, the company that operates the site, Miller Group Inc., has a Certificate of Approval (C of A) – now referred to as an Environmental Compliance Approval (ECA) – issued by MOE in 1992 for air emissions relating to the operation of a portable asphalt plant.

In September 2011, Miller Group Inc. relocated the portable plant from its quarry in McNab/Braeside Township to the Horton location. Before the start of operations, MOE conducted a site visit confirming best management practices, including the operating location of the plant on the site. (During its operation, the separation distance between the portable asphalt plant and the nearest residence was 460 metres, 400 metres farther than the minimum separation distance required by the plant's ECA.) Prior to the start-up of the portable plant at the site, the company and the Township of Horton also held an information meeting for local residents to learn about the operations, regulatory compliance and requirements for the operation of the asphalt plant.

Beginning September 21, 2011, the plant operated at the Jamieson Pit for 29 days until operations ceased on November 4, 2011. Immediately after the portable asphalt plant started operations, MOE began receiving complaints from the two applicants alleging excessive noise and odours from the operation of the asphalt plant, as well as fugitive dust from road traffic. MOE's Ottawa District Office promptly began investigating the complaints by initiating an environmental compliance assessment of the portable asphalt plant.

Summary of Issues

In October 2011, after complaining to MOE about bothersome odours and noise from the portable asphalt plant, the applicants filed an application for investigation under the *Environmental Bill of Rights, 1993* (EBR) requesting that MOE investigate the plant. The applicants alleged that during operation, emissions from the plant, fugitive dust and road dust from truck traffic resulted in Miller Group Inc. contravening section 14 of the *EPA*, which prohibits the discharge of a contaminant that may cause an adverse effect, including: impairment of the quality of the natural environment; loss of enjoyment of normal use of property; and a negative effect on a person's health. The applicants claimed that odours, noises and dust from the plant gave people headaches, prevented neighbours from hanging laundry on their clotheslines, kept residents from opening windows, negatively affected property values, and generally precluded the applicants from enjoying their property. The applicants also alleged that the company contravened: section 9 of the *EPA*, which requires an environmental compliance approval for the use, operation, or alteration of a plant or process of production; Regulation 349, which regulates hot mix asphalt facilities; and Regulation 346 (now O. Reg. 419/05), which regulates industrial air emissions.

Ministry Response

In December 2011, MOE denied the application for investigation because a ministry investigation into the applicants' complaints was already underway. The ministry specified that MOE staff were assessing information gathered during inspections and surveys conducted at the site between September 24 and November 4, 2011.

In late January 2012, MOE sent a letter to the applicants sharing a summary of the results of the ministry's environmental compliance assessment of the portable asphalt plant at the site. As part of this assessment, MOE conducted: site inspections; site visits; and air inspections. The ministry also assessed fugitive dust, odour, noise and emissions (including opacity) against ministry regulatory requirements.

The ministry's assessment concluded that the operations of the asphalt plant during fall 2011 were in compliance with all applicable ministry legislation and guidelines. Specifically, MOE confirmed compliance with the *EPA*, O. Reg. 419/05 and Regulation 349, best management practices, ministry noise guidelines and the plant's ECA. Surveys conducted by MOE on eight of the plant's operating days (to assess the level of noise and odours at or near residences) found no evidence of an adverse effect from the asphalt plant operation.

For the full text of the ministry's decision and MOE's environmental compliance assessment summary, please see our website at www.eco.on.ca.

Other Information

Up until about 2004, Miller Group Inc. operated a different portable asphalt plant at the site. This other asphalt plant had been operating as a portable plant in the Jamieson Pit since 1971, and was moved to a permanent location at the pit in 1993. (In April 2001, MOE advised Miller Group Inc. that the plant must start operating in accordance with a C of A for a permanent asphalt plant as required by Regulation 349.) The applicants have been raising concerns with the provincial government about the gravel pit and asphalt plants at the site since 1998.

In July 2002, the applicants submitted an application for investigation alleging that a hot-mix asphalt plant at the Jamieson Pit was in violation of sections 9 and 14 of the *EPA*, and Regulations 346 and 349 (see pages 276-282 of the Supplement to our 2003/2004 Annual Report). The applicants claimed that dust, a tar-like odour, and excessive noise created by the plant was affecting vegetation, neighbouring properties and the lifestyles of nearby residents. MOE agreed to undertake the investigation.

The results of MOE's *EBR* investigation did not support the applicants' allegations of off-site property or vegetation damage that would result in a contravention of section 14 of the *EPA*. The ministry did, however, find the facility to be in non-compliance with: a condition in its C of A (Air) to prepare a manual outlining the operating and maintenance program for the plant; and the air emission standards and contaminant emission rates for suspended particulate matter under Regulations 346 and 349. In response, MOE charged the company and issued a Provincial Officer's Order requiring the company to prepare an abatement plan and implementation schedule for plant modifications to ensure compliance with ministry regulations. Upon reviewing the ministry's handling of this application, the ECO concluded that MOE's response failed to clearly address all the applicants' concerns, including odour, noise and fugitive dust complaints, and the loss of enjoyment of normal use of property. In March 2004, MOE amended the plant's C of A to allow modifications to the plant's pollution control equipment (Registry #IA03E1030).

In March 2006, the applicants submitted another application for investigation, requesting that MOE investigate alleged contraventions of the *Ontario Water Resources Act* by Miller Group Inc. at the Jamieson aggregate pit (see pages 226-227 of the Supplement to our 2006/2007 Annual Report). MOE denied the investigation, a decision the ECO considered reasonable, since the ministry had carried out a compliance inspection just a few months earlier in response to complaints from the applicants.

ECO Comment

MOE's decision to deny this application was reasonable since the ministry was already conducting an investigation into the allegations. Although the ECO has expressed concern before about ministries denying *EBR* investigations because applicants' complaints had already triggered an "investigation" (see Part 7.5.1 of the ECO's 2009/2010 Annual Report), in this case, MOE legitimately avoided the duplication of an ongoing investigation by denying the application. The ministry's investigation files, which were promptly provided to the ECO upon request, indicate that MOE had indeed already initiated a thorough investigation just days after the plant began operations and the applicants complained in September 2011.

Review of Application I2011004:**3.1.5 Illegal Discharge of Contaminants into the Environment
(Investigation Undertaken by MOE)****Background/Summary of Issues**

On February 27, 2012, applicants submitted a request for an investigation related to orange-coloured water possibly originating from a St. Catharines, Ontario, auto-repair facility. The water has been discharging into a drainage ditch that carries water to a local storm run-off basin and eventually into Lake Ontario. The applicants expressed the concern that this water may contain contaminants that would threaten both the environment and Ontarians' water supply, in contravention of section 30(1) of the *Ontario Water Resources Act* and section 14(1) of the *Environmental Protection Act (EPA)*.

The applicants noted that this same company had been the subject of a previous *Environmental Bill of Rights, 1993 (EBR)* investigation (see page 326 of the Supplement to our 2009/2010 Annual Report), which determined that the company had buried wastes such as used tires and asphalt in contravention of Regulation 347, made under the *EPA*.

The applicants included a number of photographs of orange-coloured water in a drainage ditch, taken in the past year. The ECO sent this application to the Ministry of the Environment (MOE).

Ministry Response

On May 9, 2012, the ministry informed the applicants that an investigation would be conducted. The ministry further stated that the investigation would be completed by July 4, 2012, and that the applicants would be notified of the results by August 3, 2012.

ECO Comment

As the ministry's investigation was not complete at the end of our reporting year, the ECO will review MOE's handling of this application in a future reporting year.

Review of Application I2011005:**3.1.6 Abandoned Cobalt Refinery
(Investigation Pending by MOE)****Background/Summary of Issues**

On March 30, 2012, two applicants submitted an application to the ECO requesting an investigation of an abandoned cobalt refinery in Coleman Township. The applicants alleged that surface soils on the refinery property are contaminated with arsenic, lead, and cadmium, and that many waste materials are being improperly stored on the refinery site. According to the applicants, these materials include 250,000 litres of ferrous chloride and 2,700 litres of hydrochloric acid. The applicants included many photographs of chemicals such as copper sulfate stored in uncovered drums, loose asbestos lying on the floor of the abandoned building, and open drums of unlabelled chemicals. In total, they claim, there are about 600 drums of material on the site. The applicants stated that the property is owned by a numbered Ontario company that is in turn controlled by a person living in the United States. The applicants asserted that the site is a threat to the nearby Montreal River and that previous and potential future spills on the property

are a threat to both the environment in general and to the local water supply. The applicants also expressed concern about the risk of fire at the facility, which they state would require the evacuation of nearby residents should such an event occur. They pointed out that there is no control over access to the property. The applicants also included several lab chemical analyses as appendices. The ECO forwarded the application to the Ministry of the Environment (MOE).

Ministry Response

At the time of writing, MOE had not yet made a decision on this application, as the deadline fell outside the ECO's reporting year.

ECO Comment

The ECO will review MOE's handling of this application in a future reporting year.

3.2 Ministry of Natural Resources

Review of Applications I2010005:

3.2.1 Hunting and Trapping Coyotes and Wolves for Gain (Investigation Denied by MNR)

Geographic Area: City of Cornwall and City of Ottawa

Keywords: bounties; contests; coyotes; *Fish and Wildlife Conservation Act, 1997 (FWCA)*; hunting; trapping; wolves

In March 2011, two applicants requested that the Ministry of Natural Resources (MNR) investigate alleged contraventions of section 11(1) of the *Fish and Wildlife Conservation Act, 1997 (FWCA)* by the organizers, hosts and participants of two coyote/wolf killing contests in eastern Ontario. This section of the Act prohibits the hunting and trapping of wildlife for gain (or the expectation of gain), subject to certain exceptions.

Background

The Eastern Coyote

The eastern coyote (*Canis latrans*), found throughout much of southern Ontario and agricultural areas in the north, is a hybrid between the smaller western coyote and the eastern wolf (*Canis lycaon*). Feeding on a wide variety of foods, including deer, small mammals, amphibians, birds, carrion, fruits and vegetables, coyotes perform an important role as a top predator in southern Ontario where most other large predators have been eradicated. While most commonly associated with open, agricultural landscapes interspersed with woodlots, this medium-sized carnivore is also found in green spaces and industrial areas within cities. Coyotes are usually wary of humans and avoid people whenever possible, typically roaming at night looking for food and spending the daylight hours bedded in bushy or wooded areas. However, in some cases, individual coyotes have preyed on livestock. Rare attacks on people, and more frequently pets, have also heightened the public's hostility towards these animals.

Coyotes often mate for life, and packs of coyotes generally consist of an adult breeding pair and their most recently born pups. Coyotes quickly adapt to human-caused alterations to the landscape, such as

the clearing of land for agriculture and development. Furthermore, these animals adapt to intensive indiscriminate hunting and trapping by increasing the frequency of litters and number of pups per litter in a process termed compensatory reproduction. In fact, some studies suggest that coyotes can withstand the harvesting of up to three-quarters of their population annually and not be extirpated (locally exterminated) for decades. As a result, government scientists in Ontario and the U.S. have determined that it is virtually impossible to eliminate coyotes regionally in order to minimize perceived human-wildlife conflicts.

Coyote and Wolf Hunting Contests in Ontario

For the past few years, residents of rural eastern Ontario have perceived an increase in the abundance of coyotes. In an attempt to control local coyote numbers, organizers have started holding contests that encourage participants to kill coyotes – and in some contests, wolves – for the chance to win guns and other prizes. For example, the Fence Depot in Cornwall held a contest in February 2011, during which hunters were encouraged to bring in pairs of wolf or coyote ears to win over \$2,500 in prizes in a variety of categories. Similarly, a contest held by the Osgoode Township Fish, Game & Conservation Club in early 2011 encouraged entrants to remit a coyote and \$2.00 for a chance to win one of three prizes.

As early as 2010, however, citizens began voicing concerns in the media that these contests – in addition to being ineffective at reducing coyote numbers – may be illegal under the *FWCA*. Except with the authorization of the Minister of Natural Resources, section 11(1) of the *FWCA* prohibits:

1. Hunting or trapping for hire, gain or the expectation of gain;
2. Hiring, employing or inducing another person to hunt or trap for gain; and
3. Paying or accepting a bounty.

Sections 11(3) and 11(4) of the *FWCA*, however, contain exceptions that allow licensed trappers to: hunt or trap furbearing mammals (e.g., coyotes) for hire, gain, or the expectation of gain; and hire, employ or induce another licensed trapper to hunt or trap furbearing mammals for gain. In March 2011, the then Minister of Natural Resources publicly stated that she “absolutely” disapproved of two annual coyote contests held in the towns of Osgoode and Arnprior.

In the winter of 2010/2011, the Ontario Wildlife Coalition (OWC) repeatedly requested, via lawyer’s letters, that the Minister of Natural Resources comment on the legality of coyote hunting contests. The spokesperson of the OWC remarked to media, “it is unbelievable that we simply cannot get an answer from the Minister about the legality of the contests.” Despite MNR’s awareness of the contests and citizens’ concerns, and despite the then-Minister’s apparent disapproval, the ministry has not commented on the legality of these contests, nor has it charged any contest organizers or participants to date with an offence under the *FWCA*.

Summary of Issues

In March 2011, two applicants requested that MNR investigate alleged contraventions of section 11(1) of the *FWCA* by the organizers, hosts and participants of two such contests, one of which was advertised as a coyote/wolf hunt contest. The applicants argued that by sponsoring, advertising, organizing, and providing logistics and other benefits, contest organizers induced individuals to kill coyotes and wolves for gain in the form of prizes, thereby contravening the *FWCA*. Moreover, the applicants contended that by collecting and aggregating contest registration fees, and disbursing prizes to participants, contest organizers paid a bounty for each animal killed and presented. The applicants argued that contest participants also violated the *FWCA* by hunting/trapping for the expectation of gain and paying entry fees that contributed to the bounty.

The applicants asserted that the contests are environmentally harmful, as they: are not science-based; fail to target potentially “problem” individuals; and encourage the indiscriminate and unlimited killing of predator species that “play an essential role in maintaining a healthy predator-prey dynamic and a well-functioning ecosystem.” Moreover, the applicants pointed out that bounties have been shown to be unsuccessful at eradicating coyotes. In fact, in a May 2010 letter to the applicants, the then-Minister of

Natural Resources acknowledged that “in many jurisdictions, it is well documented that eradication programs, such as bounties, are ineffective at eliminating coyotes due to an adaptation [compensatory reproduction] in which social structures are interrupted, encouraging non-dominant pairs to breed and females to give birth to more young.”

The applicants concluded that “it is unreasonable, unsustainable, and harmful to the environment to promote the extermination of local or even regional populations of necessary apex predators to compensate for a failure to adequately protect livestock or family pets. Attempts to sanitize the landscape of ‘undesirable’ species usually backfire, and result in detrimental ecological chain reactions and harm to a wide array of other species.”

Ministry Response

MNR’s Handling of the Application with Respect to EBR Timelines

In April 2011, MNR notified the applicants that the ministry had received the application for investigation on March 28, 2011, and would be considering it under the provisions of Part V of the *Environmental Bill of Rights, 1993 (EBR)*. Under Part V of the *EBR*, if a ministry denies an application for investigation, it must notify the applicants (and the ECO) of this decision within 60 days of receiving the application. Alternatively, if the ministry decides to undertake an investigation, it must complete the investigation, or notify the applicants of the time required to complete it, within 120 days of receiving the application.

On October 13, 2011, 198 days after MNR had received the application, one of the applicants e-mailed MNR requesting a response regarding the application. The applicant expressed disappointment at MNR’s “apparent lack of action” and noted that the *EBR* timelines are “not discretionary.” Six days later, MNR responded to the applicants, noting that it was aware of the timeline but the application was still under consideration.

When the applicants had still not received a decision from MNR by November 29, 2011, the applicants wrote another e-mail to the ministry, writing that “your silence leaves us to infer that the ministry is choosing to refuse to meet its obligations under the *Environmental Bill of Rights*.” Sharing the applicants’ frustration, on November 2, 2011, the ECO also wrote the Deputy Minister of MNR to express concern with MNR’s handling of this application and its non-compliance with the statutory timelines under the *EBR*. The ECO wrote “I am concerned that the ministry’s non-compliance with the *EBR* will erode public confidence in exercising their legal rights.” On December 7, 2011 – now 192 days after the *EBR*’s 60-day statutory deadline had elapsed – MNR finally sent a Notice of Decision to the applicants indicating that it was denying the application and would not be conducting an investigation under the *EBR*.

MNR’s Decision to Deny the Application

MNR denied the application on the grounds that the alleged contraventions are: not likely to cause harm to the environment; and not serious enough to warrant an investigation under the *EBR*. In its brief Notice of Decision, MNR stated that “an investigation under the *EBR* is not necessary in relation to the contraventions alleged in the application as any changes in how coyotes are harvested due to holding and participating in contests would not likely cause harm to the environment.” MNR appears to have based this conclusion on the fact that “coyote seasons in most of southern Ontario are open year-round with no limit on the number of animals that can be harvested by licenced hunters and trappers” and that “coyote populations have been shown to be resilient to this harvest.”

MNR’s Notice of Decision did not elaborate on the ministry’s rationale for denying the application, nor respond to the applicants’ concerns that a contest that encourages the killing of wolves could have ecological impacts on these species. Moreover, while MNR’s response stated that conservation officers “will continue to monitor coyote hunting across Ontario to monitor hunters’ compliance with applicable laws,” the ministry failed to comment on the potential illegality of the contests and whether conservation officers will monitor the contests to ensure compliance with section 11(1) of the *FWCA*.

Seeking clarity around the legality of these contests, in January 2012, the ECO sent a letter asking the Deputy Minister of MNR to: explain whether coyote killing contests are illegal under section 11 of the *FWCA*; and to confirm whether any coyote hunting contests in Ontario were, or will be, authorized by the Minister of Natural Resources. In April 2012, MNR responded to the ECO's letter, reiterating that coyote contests are not likely to harm the environment and are not serious enough to warrant an investigation under the *EBR*. The ministry also indicated that conservation officers have been monitoring hunting activities for compliance with hunting regulations under the *FWCA*. MNR failed to respond, however, to the ECO's specific questions around the legality of these contests under section 11 of the *FWCA*.

For the full text of the ministry decision, please see our website at www.eco.on.ca.

ECO Comment

The ECO is extremely disappointed with MNR's handling of this application; the ECO finds it unacceptable that MNR responded to the applicants over six months late with a scant Notice of Decision that failed to adequately address the applicants' concerns or explain why the ministry's response was so overdue.

Despite being required by law to provide a decision by late May 2011, MNR did not inform the applicants of its decision on this locally controversial issue until December 2011, two months after the provincial election. This failure to comply with non-discretionary *EBR* deadlines compromises Ontarians' ability to participate in environmentally significant decision making. Moreover, it undermines the public's confidence in the government and whether it treats Ontarians' environmental rights seriously. In addition, MNR's failure to provide any explanation for its lateness was disrespectful of the applicants, the ECO and the Legislature.

The applicants' motivation for submitting this application was to get clarity around the legality of coyote/wolf-killing contests, something the applicants and others have requested from MNR for years. Unfortunately, in its Notice of Decision, MNR seems to deliberately avoid clarifying whether these contests were authorized by the Minister or are, in fact, illegal. This continues to leave the applicants and other Ontarians confused and frustrated. Even when asked point-blank by the ECO whether these contests were authorized (or potentially in contravention of section 11 of the *FWCA*), MNR's response blatantly evaded the question. If these contests were not given ministerial approval and are illegal under section 11 of the *FWCA*, MNR should say so, before explaining to the public any decision to ignore enforcement of any contraventions.

The ECO believes that contests that actively encourage the indiscriminate killing of animals and the manipulation of wildlife populations have the potential to cause environmental harm. In particular, contests that encourage the killing of wolves – and coyotes, which sometimes resemble wolves – could have negative impacts on populations of eastern wolves, a species of special concern. Irrespective of whether the contests actually cause environmental harm, MNR's refusal to clarify whether these contests contravene the *FWCA* gives the impression that the ministry is turning a blind eye. This abdication of authority undermines the public's confidence in MNR's ability to manage Ontario's wildlife. Indeed, if MNR leaves this issue unclear and unresolved, some Ontarians might initiate hunting contests to control the populations of other species they consider a nuisance.

MNR has been tasked by the Ontario legislature, and by extension all Ontarians, with the responsibility to decide the appropriate level of hunting pressure on a species; it is inappropriate for local businesses or hunting clubs to assume this role on their own. The ECO urges MNR to investigate all coyote/wolf-killing contests in Ontario and clearly explain to the public whether they are legal under section 11 of the *FWCA*; if they have not been legally authorized, a reasonable expectation would be that enforcement action would be swiftly undertaken.