



## Chapter 8

# Failing to Protect a Threatened Species: Ontario Allows Hunting and Trapping of the Algonquin Wolf

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**Ontario needs to protect  
threatened Algonquin wolves  
from hunting and trapping.**

## **Abstract**

Hunting and trapping is a central threat to the long-term survival of the Algonquin wolf, which is a threatened species at risk. Ontario's *Endangered Species Act* prohibits threatened species from being killed or harmed, but the Ministry of Natural Resources and Forestry has chosen to exempt the Algonquin wolf from this important protection across much of its range. The ministry has opted to only protect Algonquin wolves from hunting and trapping in and around a few isolated provincial parks. Scientists have concluded that the Algonquin wolf stands little chance of recovery unless the ministry bans hunting and trapping of wolves and coyotes throughout its range.

## 8.0 Introduction

Since 1963, more than 150,000 people have experienced the wonder of taking part in a wolf howl in Algonquin Provincial Park. This unique opportunity to get to know one of our province's most iconic species is one of the longest running events of its kind in North America. Despite the immense public interest in this animal, most people are unaware that, unlike other threatened species in Ontario, Algonquin wolves may be legally hunted and trapped in parts of their range. The Ministry of Natural Resources and Forestry (the MNRF) has denied Algonquin wolves the full protection normally provided under the *Endangered Species Act (ESA)* to threatened species. The MNRF's failure to fully protect the Algonquin wolf has drastically reduced the chance of recovering this species.

**UNLIKE OTHER THREATENED SPECIES IN ONTARIO, ALGONQUIN WOLVES MAY BE LEGALLY HUNTED AND TRAPPED IN PARTS OF THEIR RANGE.**

### 8.0.1 The Algonquin Wolf: A Distinct and Important Species

The Algonquin wolf, also sometimes known as the eastern wolf,<sup>1</sup> is a mid-sized canid (i.e., part of the dog family), with variable fur colour that is generally reddish-brown or tawny. The Algonquin wolf is native to Ontario, but its genetic origin and status has been a controversial topic for decades, largely because of hybridization and backcrossing with other canids like coyotes.<sup>2</sup> However, many recent studies have now concluded it is a genetically, morphologically and behaviourally unique species.<sup>3</sup>



Photo Credit: MNRF.

The federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has determined that the eastern wolf is a species “that is worthy of conservation because of its distinctiveness, persistence and significance as a large carnivore, and likely part of the last remnant population of the large *Canis* from eastern North America.”<sup>4</sup> In Ontario, the Committee on the Status of Species at Risk in Ontario (COSSARO) concluded that although Algonquin wolves are part of a widespread hybrid complex, they are “a genetically distinct” group, and an “evolutionarily significant unit.”<sup>5</sup> Both independent bodies of scientists identify it as a threatened species.

### 8.0.2 Once Abundant, Now Threatened

The species known today as Algonquin wolves used to be found across eastern North America. Now there are only a few small pockets of them remaining, mostly in central Ontario and southern Quebec. Over the last few centuries, the species has lost most of its historical range in northeastern North America, and has been extirpated from the Atlantic provinces and the eastern United States. The current known “extent of occurrence” of Algonquin wolves within Ontario is only about 80,000 km<sup>2</sup> (Figure 1).<sup>6</sup>



**Figure 1.** Extent of Occurrence of Algonquin wolf.

Source: COSSARO/NHIC.<sup>7</sup>

The most recent population estimate from COSSARO puts the number of mature wolves between 250 and 1,000, of which about two-thirds live in Ontario.<sup>8</sup> However, scientists warn that the actual population size is likely closer to the lower end of this range.<sup>9</sup> This exceptionally low number of individuals puts the long-term survival of the Algonquin wolf in question.<sup>10</sup> As a general rule, a minimum population of 500 individuals is considered necessary for long-term survival.

For these reasons, the Algonquin wolf has been designated as threatened. Eastern wolves were first classified in 2004 as a species of “special concern” under the *ESA*. This designation means that, although a species is not endangered or threatened, there are identified threats and biological characteristics that could cause it to become threatened or endangered. In January 2016, COSSARO reclassified the species’ status to “threatened,” meaning that the species is

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likely to become endangered if steps are not taken to address its threats. When the species was reclassified, COSSARO also changed its name from eastern to Algonquin wolf.

At the federal level, eastern wolves were assessed by COSEWIC as a threatened species in 2015. But, unlike provincial species at risk legislation, a reassessment by COSEWIC does not automatically trigger listing under the federal *Species at Risk Act*, therefore the status of eastern wolves has not yet been changed under that law from special concern to threatened.

**ALGONQUIN WOLVES PLAY A  
SIGNIFICANT ROLE IN SHAPING  
THEIR ECOSYSTEMS.**

### **8.0.3 Why It Matters That Algonquin Wolves Are Threatened**

As a top predator, Algonquin wolves play a significant role in shaping their ecosystems. Not only do Algonquin wolves have an obvious direct influence on their prey (which include beaver, deer and moose), their presence in the ecosystem also has cascading and complex indirect effects on a multitude of plants, animals and ecological processes.<sup>11</sup> For example, wolves can play a key role in forest succession. When Algonquin wolves eat deer, it can reduce the browsing pressure on the forest understory, in turn allowing trees to grow, which create habitat for other animals, like birds, insects and small mammals (Figure 2). Similarly, Algonquin wolf predation on beaver, an “ecosystem engineer,” can impact the influence of beavers on the structure of waterbodies like lakes, rivers and streams – and the habitats that these provide for other species.



Deer have been excluded from the area on the left, allowing the forest to regenerate.

Excessive deer browsing in the forest understory has impeded successful regeneration.

**Figure 2.** Wolves help to control deer populations – overabundant deer can prevent successful forest regeneration. The image of the deer enclosure above shows the impact of long-term deer damage.

Photo Credit: Bill Cook, Michigan State University Extension.

The role of Algonquin wolves cannot be filled by smaller canids like coyotes or coyote-hybrids, because these animals are less able to hunt large prey.<sup>12</sup> In other words, if Algonquin wolves are unable to fulfill their ecological role, the ecology of central Ontario is affected in unpredictable ways.

In addition to their ecological role, Algonquin wolves are an important component of the genetic diversity of North America’s canid populations. Some scientists believe that Ontario’s Algonquin wolves might be the only remaining significant wild population of the red wolf, a species listed as critically endangered in the United States.<sup>13</sup>

## 8.1 From Persecution to Protection: The Shifting Attitude Towards Wolves

Wolves have long been characterized as “problem” wildlife or as vermin, and have been subjected to wide-scale human persecution since the arrival of European settlers. Early settlers generally viewed predators such as wolves as threats, particularly to livestock, and engaged in targeted eradication campaigns to exterminate wolves and other predators throughout much of North America.<sup>14</sup> Many of these attitudes still persist today.

Older government policies and programs also reflected these attitudes. The Ontario government used to offer a bounty on wolves and coyotes, abolishing it only in 1972. Even within Algonquin Provincial Park, park rangers were once encouraged to kill wolves.<sup>15</sup> The government only began to protect wolves in Algonquin Park in 1959, when a study of the behaviour and ecology of wolves in the park was initiated.

It wasn't until the 1990s that the Ontario government took steps to acknowledge the ecological importance of wolves and the need to conserve them, when it began a review of wolf status and policy. In the early 2000s, the government moved towards a more responsible model of wolf management by restricting the hunting seasons for wolves and introducing harvest limits in parts of the province (see pages 86-88 of the ECO's 2004/2005 Annual Report).

In 2005, the ministry released its *Strategy for Wolf Conservation in Ontario*, which is still in effect today. The primary objective of this policy is to “ensure ecologically sustainable wolf populations,” but also includes objectives related to social, cultural and economic benefits related to wolves, and increasing public awareness and understanding. Among other actions, the 2005 Strategy committed the MNRF to undertake monitoring to determine the distribution and abundance of wolves in the province, including considering the mandatory collection of biological samples; however, the ministry has never introduced sample requirements from hunters or trappers (see *The Regulation of Hunting and Trapping* below).

### **8.1.1 Protected Areas: Creating Safe Spaces for Wolves**

Much of the debate about wolf management in Ontario has centred on Algonquin Park. Because wolves tend to inhabit areas away from human disturbances, the few remaining Algonquin wolf populations are concentrated in protected areas, particularly in Algonquin Park (see Figures 1 and 3). Further, because hunting wolves is prohibited in most provincial parks (including Algonquin

## **ISOLATED POCKETS OF PROTECTION ARE NOT ENOUGH.**

Park, Killarney Provincial Park, Queen Elizabeth II Wildlands Provincial Park and Kawartha Highlands Provincial Park) and in all Crown Game Preserves, these areas act as crucial safe spaces for wolves.

But because wolves require vast landscapes to roam, hunt and establish new packs, isolated pockets of protection are not enough. Algonquin wolves live in kin-based packs, usually composed of one breeding pair and their offspring, that occupy large territories, often as big as 200 km<sup>2</sup> each. These territories can extend beyond the borders of protected areas. The wolves that live in Algonquin Park also sometimes migrate outside the park in order to hunt deer. In addition, as juveniles mature, beginning at the age of about nine months, they leave their pack's territory (because each pack normally has only one breeding pair) in search of mates and resources – often travelling great distances. Young wolves from Algonquin Park have been known to disperse hundreds of kilometers, including into Quebec and even into Ontario's Far North.<sup>16</sup>

In 1993, the ministry introduced a ban on winter wolf and coyote hunting in three townships southeast of Algonquin Provincial Park to address concerns about high human-caused mortality of park wolves when they followed deer into the wintering areas located in those townships.

Then, in 2001, the ministry introduced a 30-month moratorium on hunting wolves in the townships surrounding Algonquin Park based on recommendations from the Algonquin Wolf Advisory Group (a group of experts and stakeholders established by the Minister of Natural Resources). In our 2001/2002 Annual Report, the ECO concluded that a temporary moratorium was insufficient and the MNRF should: permanently close the hunting and

trapping seasons around the park until the eastern wolf population was demonstrated to be viable; consider closing the seasons across their entire range; and begin managing them as a species at risk.

In 2004, the MNRF permanently closed the hunting and trapping seasons for wolves and coyotes around Algonquin Park. This closure did not ultimately increase the wolf population in Algonquin Park because it was followed by an equivalent increase in natural mortality rates. However, researchers have since concluded that the closure helped to restore natural pack structure of the park's wolves and stabilized population numbers within the park, which represented an important step towards the species' recovery.<sup>17</sup>

**HUMAN-CAUSED MORTALITY  
– PRIMARILY THROUGH HUNTING  
AND TRAPPING – IS THE MOST  
SIGNIFICANT THREAT TO  
ALGONQUIN WOLVES.**

## **8.2 Hunting and Trapping: The Biggest Threat to Algonquin Wolves**

Human-caused mortality – primarily through hunting and trapping – is the most significant threat to Algonquin wolves.<sup>18</sup>

The hunting and trapping of wolves and coyotes has economic and social importance for some people in the province, especially in the north. Some Ontarians have a tradition of wolf hunting – each year the MNRF sells thousands of wolf and coyote game seals to hunters. Numerous outfitters in northern Ontario also offer tourists the opportunity to hunt wolves. Unlike

many other wildlife species that are hunted and/or trapped in Ontario, wolves are not harvested for food – they are largely hunted for sport and trapped for commercial gain.

Trapping wolves and coyotes is also a source of supplementary income for some people. The pelts of wolves and coyotes that are killed by trappers are sold at auction, mostly for export. In 2015-2016, the average pelt price for coyote was \$49.91 and for wolves was \$83.50. These low pelt prices, combined with the relatively low harvest numbers (see *How Many Algonquin Wolves Are Killed in Ontario?*, below) means that the overall financial benefit of wolf and coyote trapping within the area where Algonquin wolves are found is minimal, likely in the range of about \$70,000 per year, or a few hundred dollars per trapper in the region.

In fact, most trappers do not harvest wolves and coyotes primarily for financial gain. Rather, many trappers believe that trapping canids helps to maintain populations of other game animals, such as beavers. Some farmers also support wolf and coyote harvesting because it can help to reduce livestock depredation.

However, in the event that livestock are killed by wolves or coyotes, farmers may be compensated through the Ontario Wildlife Damage Compensation Program (for more details see Chapter 2.2 of the ECO's 2011/2012 Annual Report, Part 2). There are also relatively low levels of livestock predation in the area where Algonquin wolves are found.<sup>19</sup>

Moreover, the government should not support *de facto* predator control that targets a threatened species as an acceptable wildlife management practice, especially in light of its broader obligations to manage wildlife on behalf of all Ontarians.

The Ontario government also generates a nominal amount of revenue from the hunting and trapping of wolves and coyotes. In addition to a fee of \$25.15 for a

small game licence, in the part of the wolf range where a game seal is required the MNRF charges Ontario residents \$11.14 for a wolf game seal, while charging non-residents \$272.41. The Ontario government also receives royalties for pelts that are sold by trappers – in 2016/2017 the government received \$4.60 in royalties for each wolf pelt and \$2.75 for each coyote pelt (i.e., a total of about \$3,700 per year for the region).

### **8.2.1 The Impacts of Hunting and Trapping on Algonquin Wolves**

Research has shown that outside of protected areas (where hunting is mostly prohibited), Algonquin wolves are particularly vulnerable – they are more likely to die from harvesting than other canids.<sup>20</sup>

The high density of roads in some areas both within and outside the protected areas (such as logging access roads) can also contribute to wolf vulnerability – largely because roads facilitate wolf movement as well as increase hunter access for harvesting, though also because wolves are sometimes killed by vehicles.<sup>21</sup>

Juveniles are at especially high risk of being hunted or trapped, and typically make up a high proportion of wolf harvests.<sup>22</sup> Given the already low number of Algonquin wolves, each wolf killed has a significant effect on the remaining total population.

Moreover, hunting and trapping has effects beyond the deaths of individual wolves. The death of an individual has indirect, negative impacts on the social structure of the entire wolf pack. For example, the loss of pack members may result in more instances of unrelated individuals joining packs, which disrupts the natural composition of packs.<sup>23</sup> It can also increase the incidence of hybridization between Algonquin wolves and coyotes, representing a threat to the genetic distinctiveness of the Algonquin wolf and the ecological role that it fills.<sup>24</sup> All of these factors potentially undermine recovery efforts for the species.

### **8.2.2 The Regulation of Hunting and Trapping**

The rules for licensed hunting and trapping in Ontario (outside of the protected areas where hunting is banned) are found in the *Fish and Wildlife Conservation Act, 1997* and its regulations. Together, these establish licensing requirements, open season timing and length, and harvest limits. There are differing requirements for hunters than for trappers, and also differing requirements for different parts of the province. These rules do not apply to hunting or trapping by Aboriginal people who are exercising Aboriginal or treaty rights.

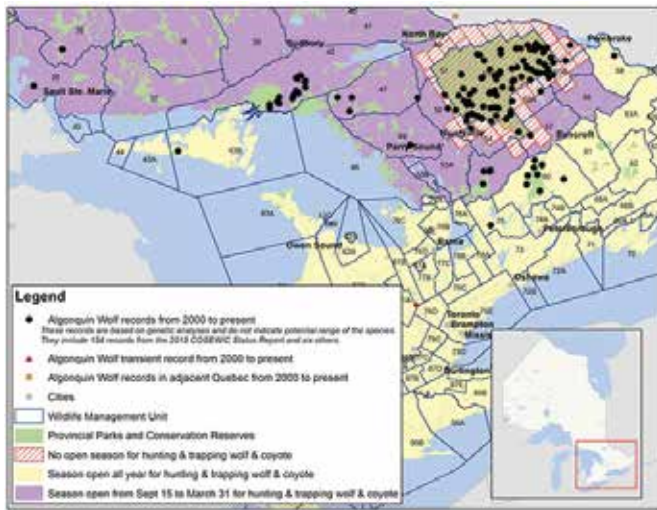
#### **Hunting restrictions must apply to all wolves and coyotes**

One of the central challenges in protecting Algonquin wolves is the difficulty in visually distinguishing this species from coyotes and other types of wolves. It is relatively easy for a hunter to accidentally kill an Algonquin wolf while actually intending to harvest a coyote or grey wolf. Additionally, a trap does not discriminate between Algonquin wolves, coyotes or grey wolves. This means that in order to prevent the accidental harvest of Algonquin wolves in a given area, the hunting of other canid species must be prohibited in that area as well.

In central and northern Ontario, hunters of wolves and coyotes must obtain a small game licence and purchase a game seal (i.e., a seal that is required for each animal harvested, which must be immediately attached to an animal after it is killed).<sup>25</sup> Hunters are limited to two game seals per year.

In southern Ontario, hunting of wolves is minimally regulated; hunters only require a small game licence tag (i.e., a licence tag that allows the holder to hunt a number of small game species like racoon, squirrel and groundhog, as well as wolves), and harvest is unlimited.<sup>26</sup> Five of these southern management units fall within the Algonquin wolf's current range (Figure 3).<sup>27</sup>





**Figure 3.** Hunting of wolves and coyotes is largely unregulated in the southern edge of the Algonquin wolf extent of occurrence.

Source: COSSARO.

Trappers are required to have a trapping licence. On Crown land, trappers are assigned a specific trapline with exclusive rights. Trappers may also trap on private land with the owner's permission. Provincially, trappers are not subject to harvest limits on wolves or coyotes, although the ministry may place quotas on individual trappers as needed.

### 8.2.3 How Many Algonquin Wolves Are Killed in Ontario?

The MNRF provided the ECO with data on wolf and coyote harvesting by both hunters and trappers. This data represents a best estimate, given the various data deficiencies and uncertainties explained below.

#### *Hunting numbers do not distinguish between Algonquin wolves and other canids*

It is difficult for people to visually distinguish Algonquin wolves from other canid species – the only reliable method of identifying an Algonquin wolf is by conducting a genetic test. Due to this difficulty, the ministry does not collect information from hunters on whether they harvested a wolf or coyote. Further, the ministry does

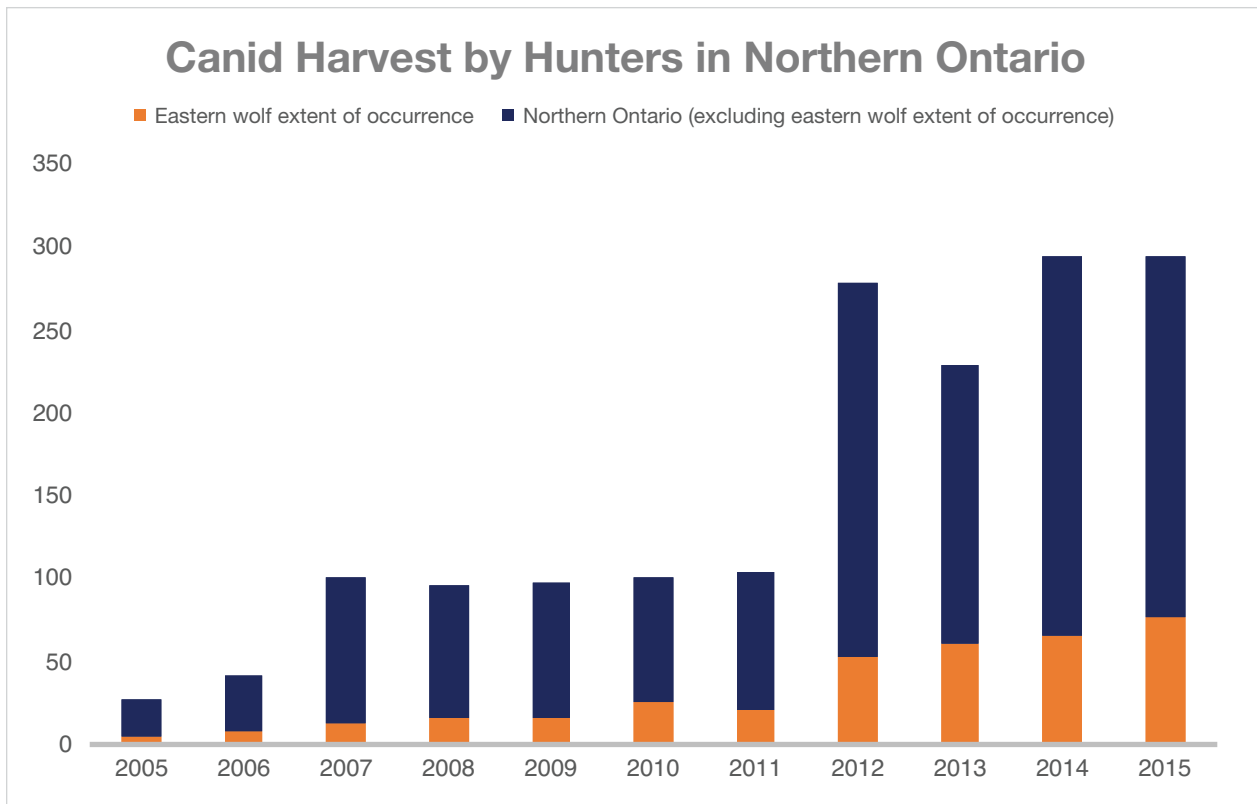
**THE ONLY RELIABLE METHOD OF IDENTIFYING AN ALGONQUIN WOLF IS BY CONDUCTING A GENETIC TEST.**

not require hunters to submit samples of their harvest for the purposes of genetic analysis. For these reasons, the ministry does not have firm data on what proportion of the overall canid harvest consists of Algonquin wolves.

#### *Hunting reporting is mandatory for only part of the Algonquin wolf's territory*

Hunters in central and northern Ontario (where a wolf/coyote hunting game seal is mandatory) are required to complete a questionnaire regarding their hunting activity. As such, the MNRF collects data from northern wildlife management units, which is the area roughly north of Orillia and Bancroft. According to the ministry's estimates (based on the roughly 57% of mandatory reports that were actually completed by hunters), over the past four hunting seasons for which data are available, hunters harvested an average of about 65 wolves and coyotes per year within the area where Algonquin wolves are found (Figure 4).

Hunters in southern Ontario, however, have no mandatory reporting requirements. As a result, it is unknown how many more wolves and coyotes are killed each year in the southern extent of the Algonquin wolf's range.



**Figure 4.** Total hunting harvest of wolves and coyotes in northern Ontario 2005-2015.

Source: MNRF.

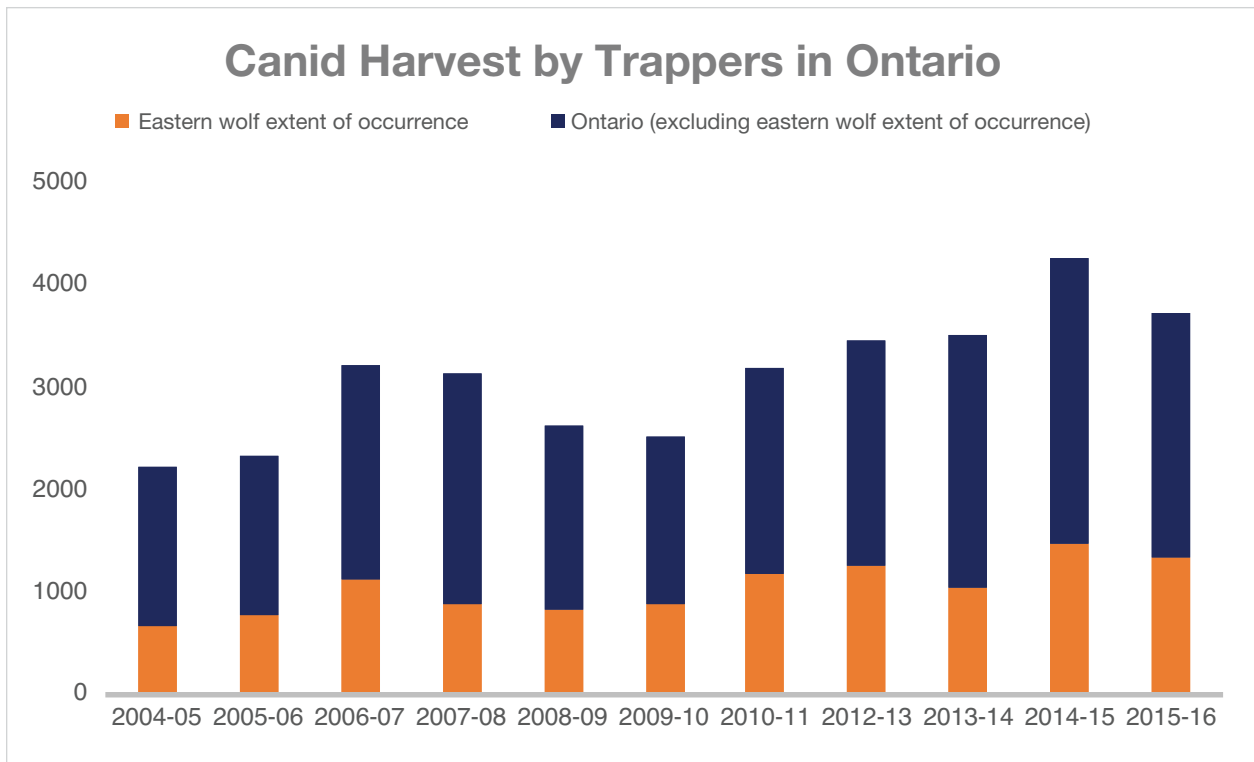
Note: Estimates only include hunting in wildlife management units where a wolf/coyote game seal is required. Due to differences in collection methods and information available, the harvest data provided for 2005-2011 is based on a summary of actual harvest reported by hunters (i.e., the harvest data is not extrapolated to generate harvest estimates at the wildlife management unit level). This data does not include WMUs 59-61, 75 and 76A within the southern extent of the Algonquin wolf range as the ministry does not collect this data.

### ***Wolves and coyotes harvested by trappers***

All trappers are required to submit a harvest report to the ministry each year. Because most trappers sell the animal pelts, they, unlike hunters, typically do distinguish between wolves and coyotes. According to the data submitted by trappers, over the past four seasons, trappers killed an average of 1,272 wolves and coyotes per year in districts that at least partially overlap with the Algonquin wolf range, an average of 93 of these are identified as wolves (Figure 5). According to the MNRF, as of 2015 there were over 100 trappers reporting wolf or coyote harvests within the extent of occurrence of Algonquin wolf. According to historical data from the MNRF, very few wolves are harvested by Aboriginal trappers in Ontario.



Photo Credit: MNRF.



**Figure 5.** Trapping harvest of wolves and coyotes since 2004.

Source: MNRF.

Note: Estimates provided for trapper harvest in the Algonquin wolf extent of occurrence include the total harvest for all districts that at least partially overlap with the extent of occurrence. The MNRF did not provide data for 2011-2012.

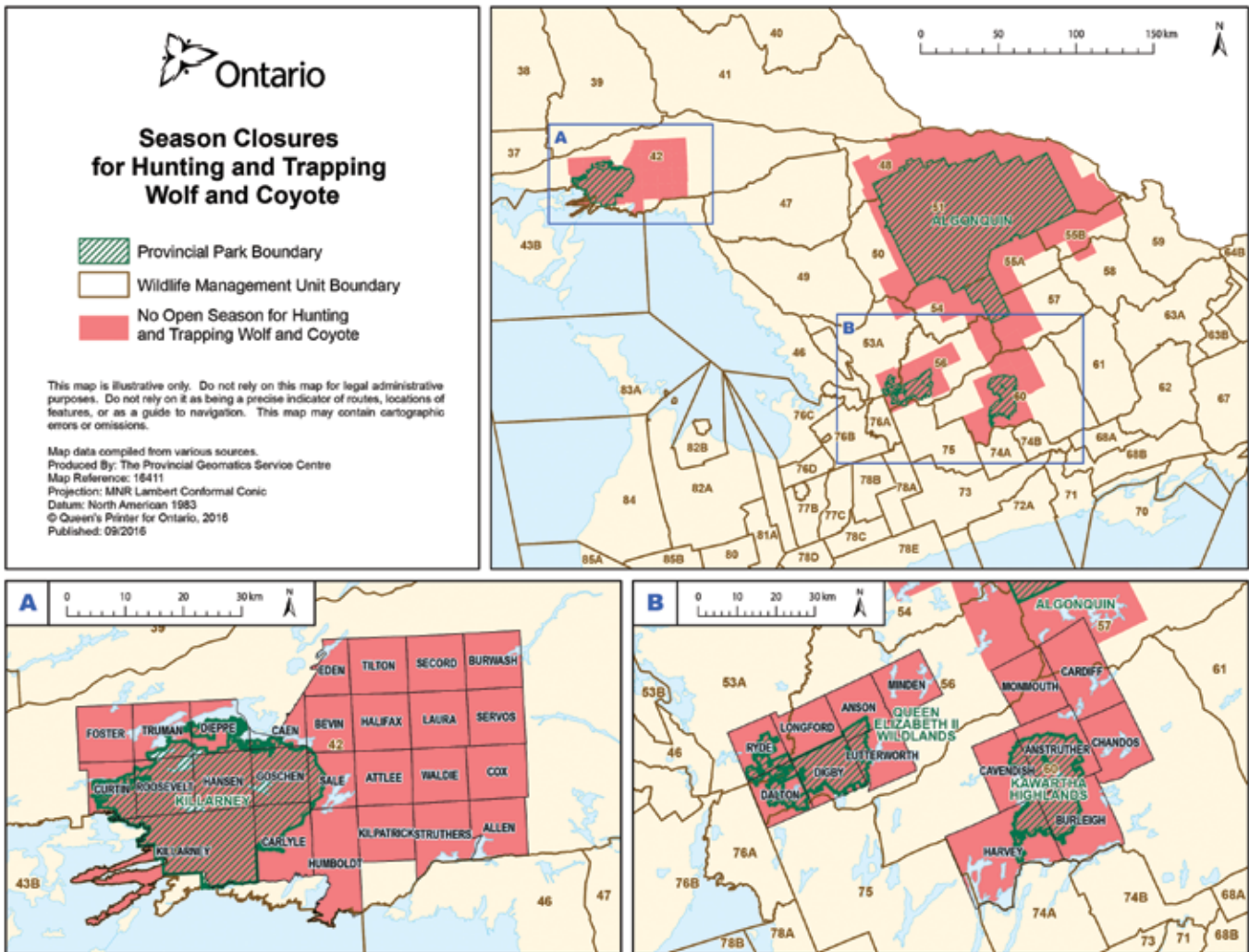
### 8.2.4 The MNRF Exempted Algonquin Wolves from the Protections of the *Endangered Species Act*

The *ESA* makes it illegal to kill, harm, harass, capture or take a member of a threatened species. These protections should have applied automatically to Algonquin wolves, but the Ministry of Natural Resources and Forestry has exempted the Algonquin wolf from them.

Rather than allow the full protection of the law to apply to Algonquin wolves, in July 2016 (a few months after the species was designated as threatened), the MNRF opted to close the wolf and coyote hunting and trapping seasons in only three new areas: Killarney Provincial

Park, Queen Elizabeth II Wildlands Provincial Park, and Kawartha Highlands Provincial Park, including a number of full and part townships surrounding each of these parks (Figure 6). Essentially, the MNRF elected to protect wolves in several parks that already prohibited the hunting of wolves and coyotes, but not trapping, along with a number of townships surrounding these parks.

## FAILING TO PROTECT A THREATENED SPECIES: ONTARIO ALLOWS HUNTING AND TRAPPING OF THE ALGONQUIN WOLF



**Figure 6.** Wolf and coyote season closures.

Source: MNRF.

Outside of these areas, hunters and trappers are exempt from the *ESA*'s prohibition on killing, harming or harassing Algonquin wolves (provided that they are hunting or trapping in accordance with the *Fish and Wildlife Conservation Act, 1997* and its regulations).

The ministry's proposal to make these changes generated immense public interest. More than 17,300 public comments were received though two proposals posted on the Environmental Registry (#012-8104 and #012-8105) from a wide variety of commenters, including members of the public, environmental

**MORE THAN 17,300 PUBLIC  
COMMENTS WERE RECEIVED.**

advocacy groups, municipalities, farming organizations, and hunting and trapping organizations. The ministry did not receive any comments on the proposals from First Nations. According to the ministry, most comments that it received were "generally opposed to the proposal."

Many commenters, including environmental advocacy organizations, were critical of the proposal for not providing enough protection to Algonquin wolves and stated that it did not reflect the best available science. These commenters asserted that the new harvest restrictions would be insufficient to recover the species, and that instead, Algonquin wolves should receive the full protection of the *ESA*, and hunting and trapping should be banned throughout the area where the species is found. Commenters also criticized the lack of connectivity and insufficient size of the newly protected areas, and noted that Algonquin wolves would face a high risk of being harvested outside of areas with season closures.

Opposition to new harvest restrictions came from a number of commenters, including many hunters, trappers and the organizations that represent them, as well as farmers and municipalities. Many of these commenters disagreed with the classification of Algonquin wolves as threatened and questioned the scientific basis for the proposal. They also argued that a harvest ban is unnecessary and/or ineffective. A number of these commenters raised concerns about the socioeconomic impact of the new harvest restrictions, and asserted that the proposal would negatively affect farmers by increasing depredation of livestock.

In making this controversial decision, the ministry characterized it as "... an interim approach to help support the protection and recovery of Algonquin Wolf while the government seeks broader input from stakeholders and the public through the recovery planning process and prepares a government response statement as required under the *Endangered Species Act*."<sup>28</sup> The recovery strategy for Algonquin wolf is currently under development and is required under the *ESA* by June 2018. The subsequent government response statement will then be required by March 2019.

**ALGONQUIN WOLVES REMAIN UNPROTECTED AND VULNERABLE TO HUNTING AND TRAPPING THROUGHOUT MUCH OF THEIR RANGE.**

### **8.3 Little Chance of Recovery for the Algonquin Wolf**

Put simply, the new hunting and trapping season closures inadequately address the central threat facing Algonquin wolves and will do little to support their recovery. Algonquin wolves remain unprotected and vulnerable to hunting and trapping throughout much of their range.

In 2016, a number of Ontario's wolf researchers concluded that "[t]he small effective population size of Algonquin wolves combined with the early dispersal of juveniles and high mortality outside protected areas severely limits their potential for persistence and recovery. Providing a protected, connected landscape with sufficiently large areas of suitable habitat to support a population that retains enough genetic variation for long-term persistence will be a key part of successful recovery efforts."<sup>29</sup> COSEWIC has



Photo Credit: MNRF.

made similar conclusions, stating that “expansion of Algonquin wolves will not occur without protection from hunting and trapping throughout its range because juvenile dispersers are more susceptible to harvest.”<sup>30</sup> In other words, Algonquin wolves need more, and larger, connected safe spaces.

The three new areas with closed hunting and trapping seasons will not suffice. These areas cover only a small fraction of the region where Algonquin wolves have been found. Moreover, the newly closed areas primarily consist of provincial parks – where the Algonquin wolf already received substantial protection – doing little to change the *status quo*. The closures also do not provide adequate connectivity between these areas.

Hunting rules remain much more liberal in parts of the southern edge of the Algonquin wolf’s extent of occurrence (Figure 3). In fact, five wildlife management units within the extent of the occurrence have year-round open seasons, do not require hunters to obtain a game seal, and do not impose any harvest limits.<sup>31</sup> Moreover, because there is no mandatory reporting requirement for these areas, the MNRF does not know how many canids are killed in these areas each year.

Although Algonquin wolves tend to be concentrated in the core areas that are now protected from hunting and trapping, they are not confined to these areas and will frequently leave their boundaries. Algonquin wolves require large, well-connected ranges, and juvenile wolves regularly disperse from their territories. As a result, when individual Algonquin wolves inevitably move beyond the boundaries of the newly protected core areas, they will continue to be at risk of being hunted or trapped. In fact, since the new harvest restrictions came into effect, at least four Algonquin wolves that were being tracked by radio collar have been killed by hunters or trappers.

Given the relatively high vulnerability of Algonquin wolves outside of protected areas and the risks faced by dispersing juvenile wolves, these closures will not support expansion of Algonquin wolves within their range.

### **Why a few disconnected protected areas aren’t enough to protect Algonquin wolves**

Imagine your neighbourhood is a protected area. You are quite secure within your home and backyard, and you even feel free to safely stroll down your street. But at some point you will need to go to the grocery store to get some food supplies, and your children will reach the age of maturity and need to go beyond your immediate neighbourhood to meet some potential mates – and at that point all sense of security will be gone. That is what it is like for wolves within a protected area. They may be safe while inside the protected area, but inevitably many wolves will have to venture outside the area to forage for food or find a mate, and they will no longer be protected.

Moreover, because the ministry does not require hunters to submit samples of harvested canids, it will have no way of knowing if Algonquin wolves are being killed by hunters and trappers in the areas that still have open seasons (with the exception of animals collared for research), and therefore no way of knowing whether this limited protection is effective. Numerous Algonquin wolves could be harvested outside of the core areas identified by the ministry, and neither the ministry nor the public would have any indication.

The failure to enact a closed season for both wolves and coyotes in the extent of occurrence of Algonquin wolves could potentially have the unintended effect of bolstering coyote populations in the region, as they are known to breed more in response to hunting,<sup>32</sup> leading to continued human conflicts with these animals. Conversely, if the ministry opted to provide full protection to Algonquin wolves, a more widespread Algonquin wolf population could possibly help to limit the prevalence of coyotes in the region.<sup>33</sup>

Finally, hybridization with coyotes remains a problem for both dispersing juveniles and established packs. Even if dispersing Algonquin wolf juveniles survive, they are unlikely to establish their own breeding pack because they will likely have difficulty finding a wolf mate in low-density areas and may breed with coyotes instead.<sup>34</sup> Similarly, the loss of breeding members from established Algonquin wolf packs will continue to disrupt natural pack dynamics and heighten the likelihood of hybridization with coyotes.<sup>35</sup> Both of these instances threaten to progressively dilute the unique genetic makeup of Algonquin wolves, meaning that they may eventually become unable to fill the same ecological niche.<sup>36</sup>

## 8.4 Conclusion: Algonquin Wolves Need Full Protection

Controversy has surrounded how the Ontario government has managed eastern (or Algonquin) wolves for decades. Scientists believe that there may be less than 250 adult Algonquin wolves left in the world.<sup>37</sup> The top threat to the long-term survival of the threatened Algonquin wolves is hunting and trapping. Unlike the pressures facing many other species, the Ontario government has the ability to easily eliminate the biggest threat to Algonquin wolves by simply amending a regulation.

Algonquin wolves should have received the full protections provided by Ontario's *Endangered Species Act* when they were listed as threatened in 2016. Instead, the Ministry of Natural Resources and Forestry took an "interim approach" that does not protect them from hunting and trapping throughout most of their range. While Algonquin wolves are subject to some additional protections around a handful of provincial parks, these half measures will not be enough to restore this at-risk population.

There is ample scientific evidence that top predators, like Algonquin wolves, are critical components of ecosystem health and warrant ecologically sound management, not only for their own intrinsic value but for the maintenance of biodiversity more broadly. The Ministry of Natural Resources and Forestry is not only turning a blind eye to the best available science, it is also disregarding the significant public interest in protecting this ecologically and culturally significant animal.

Wolves are among the most easily identifiable symbols of wilderness in the province. How they are treated reflects on our broader stewardship of Ontario's natural environment. The public expects the Ministry of Natural Resources and Forestry to actually protect and recover species at risk. Thousands of Ontarians expressed concerns about the inadequacy of the government's new measures to protect Algonquin wolves. If the MNRF is incapable of protecting a small number of threatened Algonquin wolves in only one part of the province, it creates doubt about the ministry's commitment to sustainably managing any species of wildlife – let alone an imperilled one. Moreover, it begs the question of how the MNRF views its responsibilities under the *Endangered Species Act* given that the ministry has been charged by the Ontario legislature with protecting and recovering species at risk.

The ECO recognizes that properly protecting Algonquin wolves across their range may be unpopular with some hunters and trappers. However, the government should not be catering to the interests of a small group of people when doing so directly jeopardizes a threatened species. This is particularly true given the negligible economic benefit of wolf and coyote harvesting, the inappropriateness of a predator-control approach to wildlife management, and that this species at risk is also hunted for sport.

Algonquin wolves must receive the full protection of the law if this threatened species is to have any chance of recovery. Algonquin wolves need to be protected from Peterborough to North Bay, and from Pembroke to Sault Ste. Marie. **The ECO recommends that the Ministry of Natural Resources and Forestry prohibit hunting and trapping of wolves and coyotes throughout the Algonquin wolves' entire "extent of occurrence" (i.e., where they live).**



Photo Credit: MNRF.



## Endnotes

1. In 2016, the Committee on the Status of Species at Risk in Ontario (COSSARO) renamed the species the Algonquin wolf; COSSARO defined the Algonquin wolf as wolves having at least 80% inferred ancestry with the wolf population in Algonquin Provincial Park.
2. See e.g., Linda Y Rutledge et al, "RAD sequencing and genomic simulations resolve hybrid origins within North American *Canis*" (2015) 11:7 *Biol Lett* 20150303; Kristina M. Sefc & Stephan Koblmüller, "Ancient hybrid origin of the eastern wolf not yet off the table: a comment on Rutledge et al. (2015)" (2016) 12:2 *Biol Lett* 20150834; Linda Y Rutledge et al, "Considering all the evidence: a reply to Sefc and Koblmüller (2016)" 12:2 *Biol Lett* 20151009; Bridgett M vonHoldt et al, "Whole-genome sequence analysis shows that two endemic species of North American wolf are admixtures of the coyote and gray wolf" (2016) 2:7 *Sci Adv* e1501714; Paul A Hohenlohe et al, "Comment on 'Whole-genome sequence analysis shows two endemic species of North American wolf are admixtures of the coyote and gray wolf'" (2017) 3:6 *Sci Adv* e1602250; Bridgett M vonHoldt et al, "Response to Hohenlohe et al." (2017) 3:6 *Sci Adv* e1701233.
3. Paul J Wilson et al, "DNA profiles of the eastern Canadian wolf and the red wolf provide evidence for a common evolutionary history of the gray wolf" (2000) 78:12 *Can J Zool* 2156; CJ Kyle et al, "Genetic nature of eastern wolves: Past, present and future" (2006) 7:2 *Conserv Genet* 273; Linda Y Rutledge et al, "Genetic differentiation of eastern wolves in Algonquin Park despite bridging gene flow between coyotes and grey wolves" (2010) 105:6 *Heredity* 520; Linda Y Rutledge et al, "Genetic and morphometric analysis of sixteenth century *Canis* skull fragments: implications for historic eastern and gray wolf distribution in North America" (2010) 11:4 *Conserv Genet* 1273; Steven R Fain, Dyan J Straughan & Bruce F Taylor, "Genetic outcomes of wolf recovery in the western Great Lakes states" (2010) 11:5 *Conserv Genet* 1747; L David Mech, "Non-genetic data supporting genetic evidence for the eastern wolf" (2011) 18:4 *Northeast Nat* 521; Linda Y Rutledge et al, "RAD sequencing and genomic simulations resolve hybrid origins within North American *Canis*" (2015) 11:7 *Biol Lett* 20150303; Paul A Hohenlohe et al, "Comment on 'Whole-genome sequence analysis shows two endemic species of North American wolf are admixtures of the coyote and gray wolf'" (2017) 3:6 *Sci Adv* e1602250.
4. Committee on the Status of Endangered Wildlife in Canada, *COSEWIC Assessment and Status Report on the Eastern Wolf *Canis sp. cf. lycaon* in Canada* (Ottawa: COSEWIC, 2015) at iv.
5. Committee on the Status of Species at Risk in Ontario, *Ontario Species at Risk Evaluation Report for Algonquin Wolf (*Canis sp.*), an evolutionarily significant and distinct hybrid with *Canis lycaon*, *C. latrans* and *C. lupus* ancestry* (Ontario: COSSARO, 2016).
6. *Ibid.*
7. *Supra* note 5.
8. *Supra* note 5; *supra* note 4 at 28-31.
9. *Supra* note 4 at v.
10. Linda Y Rutledge et al, "Patchy distribution and low effective population size raise concern for an at-risk top predator" (2017) 23:1 *Divers Distrib* 79.
11. See e.g., Bradley J Bergstrom, "Carnivore conservation: shifting the paradigm from control to coexistence" (2017) 98:1 *J Mammal* 1; David G Flagel et al, "Fear and loathing in a Great Lakes forest: cascading effects of competition between wolves and coyotes" (2017) 98:1 *J Mammal* 77; William J Ripple et al, "Status and Ecological Effects of the World's Largest Carnivores" (2014) 343:6167 *Science* 1241484; Robert L Beschta & William J Ripple, "Large predators and trophic cascades in the terrestrial ecosystems of the western United States" (2009) 142:11 *Biol Conserv* 2401.
12. John F Benson et al, "Ungulate predation and ecological roles of wolves and coyotes in eastern North America" (2017) 27:3 *Ecol Appl* 718.
13. *Supra* note 4 at 12.
14. See e.g., Marco Musiani and Paul C Paquet, "The Practices of Wolf Persecution, Protection and Restoration in Canada and the United States" (2004) 54:1 *Bioscience* 50.
15. John B Theberge & Mary T Theberge, *The Wolves of Algonquin Park: A 12 Year Ecological Study* (University of Waterloo: Waterloo, 2004) at 23.
16. *Supra* note 4 at 27.
17. Linda Y Rutledge et al, "Protection from harvesting restores the natural social structure of eastern wolf packs" (2010) 413 *Biol Conserv* 332.
18. *Supra* note 4; *supra* note 5.
19. See Barry Potter & Anita O'Brien, "Livestock Depredation by Wolves and Coyotes in Ontario" (Midwest Wolf Stewards Conference, 22 April 2010) [unpublished].
20. John F Benson, Brent R Patterson and Peter J Mahoney, "A protected area influences genotype-specific survival and the structure of a *Canis* hybrid zone" (2014) 95:2 *Ecology* 254.
21. *Supra* note 4; *supra* note 5.
22. NF Webb, JR Allen & EH Merrill, "Demography of a harvested population of wolves (*Canis lupus*) in west-central Alberta, Canada" (2001) 89:8 *Can J Zool* 744.
23. Sonya K Grewal et al, "A genetic assessment of the eastern wolf (*Canis lycaon*) in Algonquin Provincial Park" (2004) 85:4 *J Mammal* 625; Linda Y Rutledge et al, "Protection from harvesting restores the natural structure of eastern wolf packs" (2010) 143:2 *Biol Conserv* 332.
24. Linda Y Rutledge et al, "Intense harvesting of eastern wolves facilitated hybridization with coyotes" (2011) 2:1 *Ecol Evol* 19.
25. In Wildlife Management Units 1A, 1C, 1D, 2-42, 46-50 and 53-58 hunters are required to purchase a wolf/coyote game seal and report on their hunting activities.
26. These rules apply to Wildlife Management Units 43-45 and 59-95.
27. Wildlife Management Units 59-61, 75 and 76A fall within the Algonquin wolf extent of occurrence are not subject to the harvest restrictions applied in northern Ontario.
28. Ministry of Natural Resources and Forestry, "Regulation Decision Notice #012-8105: Amendment of Ontario Regulation 242/08 (General Regulation - *Endangered Species Act*, 2007) in response to changes to the Species at Risk in Ontario List" (September 15, 2016), *Environmental Registry*, online: <www.ebr.gov.on.ca>.

29. Linda Y Rutledge et al, "Patchy distribution and low effective population size raise concern for an at-risk top predator" (2017) 23:1 *Divers Distrib* 79.
30. *Supra* note 4 at 23.
31. See Ministry of Natural Resources and Forestry, *2016 Hunting Regulations Summary* (Peterborough: the MNRF, 2016); *supra* note 29.
32. Frederick F Knowlton, Eric M Gese & Michael M Jaeger, "Coyote depredation control: an interface between biology and management" (1999) 52:5 *Journal of Range Management* 398; Brian R Mitchell, Michael M Jaeger & Reginald H Barrett, "Coyote depredation management: Current methods and research needs" (2004) 32:4 *Wildlife Society Bulletin* 1209.
33. See e.g., John F Benson & Brent R Patterson, "Inter-specific territoriality in a *Canis* hybrid zone: spatial segregation between wolves, coyotes and hybrids" 173(4) *Oecologia* 1539; see also: Kim Murray Berger & Eric M Gese, "Does interference competition with wolves limit the distribution and abundance of coyotes?" (2007) 76:6 *J Anim Ecol* 1075; JA Merkle, DR Stahler and DW Smith, "Interference competition between gray wolves and coyotes in Yellowstone National Park" (2009) 87:1 *Can J Zool* 56.
34. John F Benson, *Hybridization Dynamics Between Wolves and Coyotes in Central Ontario* (Ph.D. Thesis, Trent University, 2013) at 150.
35. Linda Y Rutledge, "Intense harvesting of eastern wolves facilitated hybridization with coyotes" (2011) 2:1 *Ecol Evol* 19. See also Bridget L Borg et al, "Impacts of breeder loss on social structure, reproduction and population growth in a social canid" (2015) 84:1 *J Anim Ecol* 177; Scott M Brainerd et al, "The Effects of Breeder Loss on Wolves" (2008) 71:1 *J Wildl Manage* 89.
36. John F Benson et al, "Ungulate predation and ecological roles of wolves and coyotes in eastern North America" (2017) 27:3 *Ecol Appl* 718; John B Theberge & Mary T Theberge, *The Wolves of Algonquin Park: A 12 Year Ecological Study* (University of Waterloo: Waterloo, 2004); see also Chris Carbone et al, "Energetic constraints on the diet of terrestrial carnivore" (1999) 402 *Nature* 286.
37. *Supra* note 4 at v.