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# Building a Wildlife Management Strategy for Ontario

A DISCUSSION PAPER

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**Ontario Ministry of Natural Resources and Forestry**  
**August 2016**







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# 1, INTRODUCTION

Ontario's wildlife provides ecological, cultural, recreational and economic benefits to all Ontarians, and is a key component of the province's rich biodiversity. The Ministry of Natural Resources and Forestry (MNRF) acts on behalf of the public to steward wildlife, including large and small mammals, birds, reptiles, amphibians, and even insects (Figure 1).

The purpose of this document is to describe how the ministry proposes to approach the development of a strategic plan for managing Ontario's wildlife. The focus is on wildlife as defined in the Ontario *Fish and Wildlife Conservation Act, 1997* (FWCA): "wildlife" means an animal that belongs to a species that is wild by nature, and includes game wildlife and specially protected wildlife; and "animal" means a member of the class Mammalia

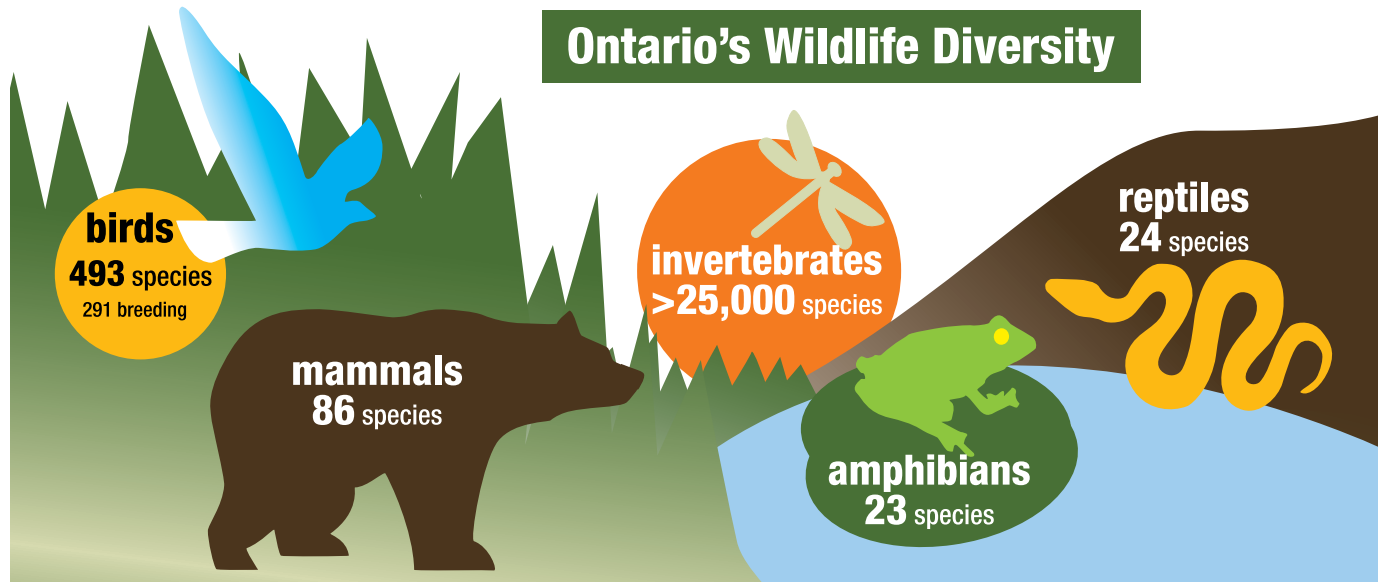


Figure 1: Ontario's wildlife diversity includes 493 species of birds, 86 species of mammals, more than 25,000 species of invertebrates, 23 species of amphibians, and 24 species of reptiles.

(mammals), Aves (birds), Reptilia (reptiles) or Amphibia (amphibians), but does not include a human being. While this paper touches on management of species at risk, those species were not a central focus of the work because Ontario's species at risk are separately protected under the Ontario *Endangered Species Act, 2007*.

Canada's Constitution grants the provinces responsibility for management of natural resources. Section 35 of the *Constitution Act, 1982* provides constitutional protection to the Aboriginal and treaty rights of Aboriginal peoples in Canada. In Ontario, there are both established and asserted Aboriginal and treaty rights to harvest wildlife.

The following sections describe past, present, and possible future directions in wildlife management. We invite you to submit your opinions and insights on the concepts presented in this paper. They are important to us, and will help to inform the development of a future Wildlife Management Strategy for Ontario.



**Section 2** discusses the history of wildlife management in Ontario, from earliest times to the present.



**Section 3** describes MNRF's wildlife management mandate and the current policy context.



In **Section 4**, there is a summary of current drivers and opportunities related to wildlife management, and a brief discussion of Canadian and international trends in wildlife management.



**Section 5** outlines a proposed approach to developing a Wildlife Management Strategy, including goals and guiding principles.



**Section 6** sets out some discussion questions and describes how you can get involved.

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## 2. A HISTORY OF WILDLIFE MANAGEMENT IN ONTARIO

### Wildlife Use and Management by First Nations

The history of wildlife use and management by First Nations peoples in Ontario long pre-dates the existence of the province. Over thousands of years, First Nations modified landscapes and employed management tools to increase the diversity of animal species, establish harvesting areas and allocate wildlife resources among users. Within many First Nation cultures, these practices are viewed as part of a sacred responsibility to care for the land, water and resources, rather than as “wildlife management”. First Nation peoples in Ontario relied on wildlife species for food, clothing, and materials for housing, tools, weapons, and utensils. Many spiritual and cultural teachings, ceremonies and practices feature or are connected with wildlife.

### Early European Approaches: Managing Game

With the arrival of European settlers, European concepts of wildlife management began to be introduced in Ontario. As the settler population grew, pressure on the wildlife resource began to increase. By the beginning of the 19<sup>th</sup> Century, the population of Upper Canada was over 70,000 people, the majority in southern parts of the province. While wildlife remained abundant, the government of the time was aware of the need to protect this valuable resource.

Early game laws established a closed season for grouse (1762) and set bounties on wolf and bear (1793). In 1821, a new regulation (*An Act for the Preservation of Deer Within This Province*) prohibited the hunting of deer in Upper Canada. The next year, 1822, the first laws governing the fur trade were enacted. In 1839, a new general game law for Upper Canada established protected seasons for all classes of game. Over the next 50 years, the list of game species and their hunting seasons were adjusted periodically, in part to address concerns about over-harvest and the near-extirpation of species such as grouse and quail. Similar protections were introduced, and periodically adjusted for furbearers subject to trapping and for a variety of birds and their nests and eggs.

**Indigenous** peoples are the descendants of the original inhabitants of a particular region or country who have historical continuity with pre-colonial societies that developed on their territories and who consider themselves distinct from other sectors of societies. In Canada, Indigenous peoples have often been referred to as “Aboriginal.” Under the *Constitution Act, 1982*, “**Aboriginal**” is defined as including Indian (First Nations), Métis and Inuit peoples. **First Nations** may include both status and non-status “Indians.” The term can also refer to an individual community, cultural group or nation (e.g. Anishinaabek, Onkwehonwe, Mushkegowuk, Lenape). **Métis** is a term used broadly to describe people with mixed First Nations and European ancestry who identify themselves as Métis, distinct from First Nations, Inuit or non-Aboriginal people. **Inuit** are the Indigenous peoples of the Arctic who live primarily in North-west Territories, Nunavut, Nunavik (Northern Quebec) and Nunatsiavut (Labrador). There are no Inuit regions or territories in Ontario.



photo: Gray Jay (Aaron Walpole)

Throughout this period and up until the early 20<sup>th</sup> century, historic treaties were also negotiated between the Crown and First Nations. Many of the treaties in Ontario recognized hunting as a right held by the First Nation signatories and their descendants.

### **The 19<sup>th</sup> Century: Managing Wildlife**

Originally conceived by hunters and anglers in response to the decline of several wildlife species across Canada and the United States in the mid-19<sup>th</sup> century, the **North American Model of Wildlife Conservation** has influenced wildlife management in Ontario, across Canada and the United States. The model aims to conserve wildlife through engagement, active management and sound science.

With Confederation in 1867, Ontario formally became a province and was granted power over “all matters of a local or private nature,” including wildlife, under the new *British North America Act*. By 1890, it had become apparent that more needed to be done to protect the province’s wildlife and fish resources. A Royal Commission was appointed under the chairmanship of Dr. G. A. MacCallum, and conducted surveys and interviews across the province. The Ontario Game and Fish Commission issued its report in 1892, a sweeping indictment of conditions that concluded with a long list of recommendations to prevent abuses, protect the resources and establish administration and enforcement on a more effective basis. In response, the province enacted new legislation, shortening hunting seasons, establishing bag limits for several species, and closing the season for beaver, otter, and fisher until 1897. Under the new legislation, a new Board of Fish and Game Commissioners was established and charged with appointing game and fish wardens and collecting information about the province’s game and fish resources. Mandatory licensing for non-resident hunters and trappers was also introduced with a \$25 licence fee, the revenues from which were used to defray enforcement costs. The first resident deer licence was introduced in 1896. In 1900, a new *Act to Amend and Consolidate the Ontario Game Protection Act* set out new and more detailed regulations governing most aspects of the taking, shipping and exporting of game animals and game birds, furbearers and fish, and introduced the first provisions for protection of migratory birds.

*photo: Hunting party in the forest, circa 1887 (Josiah Bruce, Ontario Legislative Library print collection, F125-1-0-0-95, Archives of Ontario)*



In the 1892 *An Act to amend the Act for the Protection of Game and Furbearing Animals*, First Nations and settlers in unorganized districts were recognized as exempt from provincial game laws when harvesting for personal use. This exemption was modified in 1907, which resulted in increasing conflicts between provincial game wardens and First Nation peoples who were harvesting fish and wildlife. The annual Ontario Game and Fish Commission reports around the turn of the century provide some indication of the province's perspectives on First Nations harvesting at the time. The 1911 report stated that it was unequitable for First Nations to have hunting rights not afforded to other Ontarians. The 1912 Commission recommended that steps should be taken, if possible, to require First Nation peoples to follow provincial game laws. During this period, Indigenous wildlife management and harvesting practices were viewed as inferior or harmful to sustainability.

## The 20<sup>th</sup> Century: Science and Partnerships

The first half of the 20<sup>th</sup> Century saw the emergence of a more systematic and scientific approach to wildlife management. In 1907, a new Department of Game and Fisheries was established under the control of a Cabinet Minister to amalgamate the management of fisheries and game. For the first time, the government employed a field staff of game inspectors and wardens, supported by 215 unpaid overseers and deputy wardens. By 1925, the department had engaged its first biologist, H. H. MacKay; by 1926 they had established a modest research program. A formal Research Division within the department was formed in 1944, soon followed by field studies in Algonquin Park of birds, small mammals, deer, beaver, ruffed grouse and vegetation.

A new *Game and Fisheries Act* came into effect in 1932 and, with its successor, 1962's *The Game and Fish Act*, guided wildlife management in Ontario for over 60 years. In 1946, the Department of Game and Fisheries was amalgamated with the Department of Lands and Forests, and formal training in wildlife ecology and management for non-technical field personnel began at the Forest Ranger School at Dorset, Ontario. In the following decades, the Department continued to build and strengthen its scientific approach to wildlife management. New controls were added on trapping and hunting, and a new Hunter Safety Training Program was introduced in 1957. There was also growing interest in collecting and analyzing information about wildlife populations, for instance through the introduction of aerial polar bear surveys in 1962 and a provincial mail survey system for moose and deer hunters in 1968. As awareness of species abundance grew, so did concern about



photo: Woman from Moose Factory preparing a beaver pelt, circa 1959 (John Macfie, Ontario Legislative Library print collection, C 330-6-0-0-21, Archives of Ontario)



photo: Wild Turkey (Shutterstock)





photo: Raccoons – Pinery Provincial Park, Ontario. (Shutterstock)

protection of less common species. In 1971, the *Endangered Species Act* (Ontario) was passed. The first four species were listed in 1973 (bald eagle, peregrine falcon, timber rattlesnake and blue racer); many more were added over the following years.

In 1972, the Department of Lands and Forests became the Ministry of Natural Resources, with separate branches for wildlife and fisheries management and a new Commercial Fish and Fur Branch. Two years later, the ministry began to map a system of Wildlife Management Units (WMUs), initially to support moose management in the northern region, and later to assist with deer management in the south. Over the last 40 years, many WMUs have been subdivided to address local management approaches, user patterns, and, municipal requirements. Today, there are 151 WMUs (including subunits) in Ontario.

The 1970s and 1980s also saw the emergence of key partnerships between MNR and conservation groups such as the Ontario Federation of Anglers and Hunters (e.g., in wild turkey reintroductions); Ducks Unlimited Canada (e.g., the Cooperative Waterfowl Habitat Program); and the Canadian Wildlife Federation (e.g., Project WILD, an educational program emphasizing wildlife ecology and conservation for elementary students). Partnerships with other levels of government, especially the federal Canadian Wildlife Service, were instrumental in programs such as release of bald eagle and peregrine falcon, and the development of recovery programs for a number of species at risk. Key partners like these allowed the ministry to strengthen education and licensing systems for hunters and trappers, but also to begin more ambitious data collection initiatives.

### **Late 20<sup>th</sup> Century and Early 21<sup>st</sup> Century: Understanding and Managing Ecosystems**

In 1979 MNRF adopted interim guidelines on Aboriginal and treaty rights. In 1982, Aboriginal and treaty rights were enshrined in the *Constitution Act, 1982* and in the ensuing decades, the courts have provided further clarification about these rights. The body of court cases have confirmed that, after conservation, Aboriginal and treaty rights to harvest for food, social or ceremonial purposes take priority over other uses. In 2003, the Supreme Court also confirmed the existence of Métis rights in Ontario.

The emphasis on understanding whole ecosystems, rather than species in isolation, continued to grow through the 1983 development of habitat guidelines for bird and bat species in Ontario's forests; the 1988 development of timber management guidelines for the provision of moose habitat; the 1992 introduction of a Wetland Policy; and the 1992 establishment of the Natural Heritage Information Centre and its data repository.

In 1989, the ministry established a Wildlife Working Group to “re-orient and revitalize the provincial wildlife program”. The working group produced a number of recommendations, including use of an ecosystem approach to wildlife management and biodiversity conservation that had a significant impact on natural resources management in the province. In 1993, the Ontario Ministry of Natural Resources was re-organized to emphasize an ecosystem approach to natural resource management and in 1994, the *Crown Forest Sustainability Act, 1994* was passed, instituting an ecosystem approach to forest management. Forest Management Guidelines for provision of habitat for the conservation of white-tailed deer, woodland caribou, and other species soon followed. In 1995, the ministry established the Fish and Wildlife Special Purpose Account (SPA) to dedicate fish and wildlife revenue to the management of fish and wildlife. Revenues from hunting and fishing licence sales, permits, royalties, fines and fees are placed in the SPA and used to fund MNRF’s fish and wildlife program.

On January 1, 1999 the *Fish and Wildlife Conservation Act, 1997* came into force, providing a comprehensive legal framework for the conservation and management of a broader range of species and activities. Through the mid- to late 1990s, the ministry also worked closely with the Ontario Federation of Anglers and Hunters and other stakeholders through the Hunting Heritage/Hunting Futures Working Group. That group produced a number of recommendations that ultimately led to improved support for and more effective training of hunters in the province. The *Heritage Hunting and Fishing Act* was passed in 2002 recognizing the contributions of hunters and anglers to the conservation of Ontario’s fish and wildlife resources and the right to hunt and fish in accordance with the law. In 2007, the new *Endangered Species Act, 2007* was passed making Ontario a North American leader in protecting species at risk and their habitat.

Through the early years of the 21<sup>st</sup> Century, wildlife management approaches continued to evolve, gradually incorporating broader biodiversity conservation considerations. The Cervid Ecological Framework (2009) is one example of this transition, providing new overarching policy advice for the ecosystem-based management of cervid species (deer, moose, elk and caribou) at the broad landscape level. Similar values are reflected in the strategic policy guidance provided by *Ontario’s Biodiversity Strategy: Protecting What Sustains Us* (2005); *Biodiversity: It’s In Our Nature* (2012), which sets out the Ontario government’s goals, objectives, and guiding principles for biodiversity conservation; and *Taking a Broader Landscape Approach – A Policy Framework for Modernizing Ontario’s Approach to Natural Resource Management* (2013).



## 3. ROLES AND RESPONSIBILITIES FOR WILDLIFE MANAGEMENT

### 3.1. MNR's Mandate

MNR's mandate – its formal set of responsibilities – is described in a number of sources, including laws such as the *Ministry of Natural Resources Act*, 1990 and supporting statements of policy and strategic direction.

MNR has the lead responsibility for managing Ontario's natural resources – the fish, wildlife, water, Crown land, forests, aggregates, and petroleum resources – on behalf of all Ontarians.



photo: American marten (Shutterstock)

These are resources that are important to the public of Ontario, so government has an important role in ensuring that they are managed in a sustainable manner for the public good. In some parts of the province, especially in the south, most land is privately owned, so the ministry collaborates regularly with private landowners, municipalities, and conservation authorities. Across Ontario, and especially in the Far North, the ministry works closely with Indigenous peoples in land use planning and natural resources conservation. On Crown land, the ministry works with a variety of stakeholders including the forest industry and non-government organizations.



photo: Elk (J.D. Taylor)

### 3.2. Current Wildlife Management Context

A number of laws govern the protection, management, and use of Ontario's wildlife populations and habitat. Examples include the provincial *Crown Forest Sustainability Act, 1994*; the *Fish and Wildlife Conservation Act, 1997*; the *Provincial Parks and Conservation Reserves Act*, the *Planning Act, 2006*; the *Endangered Species Act, 2007*; the *Far North Act, 2010* and a variety of other provincial and federal statutes. Strategic guidance is provided in *Horizons 2020 (2015)*, which contains MNRF's mission, vision, goals, and strategies; *Biodiversity: It's In Our Nature (2012)*, the Ontario government's plan for biodiversity conservation; and *Climate Ready: Ontario's Adaptation Strategy and Action Plan, 2011–2014*.

On June 28, 2013, the Ontario Ministry of Natural Resources (now Natural Resources and Forestry; MNRF) published a policy framework for modernizing Ontario's approach to natural resources management. That document, *Taking a Broader Landscape Approach*, proposed a framework to help deliver on the ministry's modernization initiative by informing future program-specific changes to move to broader spatial and temporal scales of management. The ministry also has a number of multi-species management frameworks, such as the Cervid Ecological Framework (2009) and the Strategy for Preventing and Managing Human-Wildlife Conflicts in Ontario (2008), and strategic, species-specific policy guidance for moose, elk, caribou, black bear, and wild turkey.

The ministry carries out its wildlife management mandate through an array of activities and tools (e.g. management of hunting, trapping, protection of property, possession, buying, selling of wildlife, wildlife health and habitat) aimed at meeting the needs of a broad client base. The intensiveness of management varies, depending on a variety of ecological, social, cultural, and economic considerations. Many activities are done in collaboration with other provincial agencies, the federal government, and stakeholders. Wildlife management outcomes are also

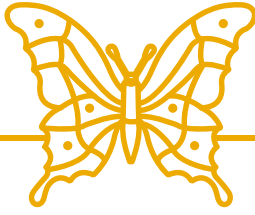
linked to other resource management activities (e.g., forest management and land use planning) as well as infrastructure development (e.g., roads, pipelines, electricity transmission lines), so there is a need to coordinate wildlife management activities with other program and policy areas.

In achieving wildlife management goals, the ministry aims to use the best available science and information, including local knowledge and traditional ecological knowledge. The ministry also consults with the public and a broad range of interests before management strategies are chosen and implemented. The approach is adaptive: goals and objectives are clearly articulated, the system is monitored and evaluated over time, and management actions are adjusted as necessary to align outcomes with management goals.

Recognizing both the significance of wildlife resources to Indigenous communities and cultures, as well as the unique relationship between the Crown and Indigenous peoples, Ontario is continuing to improve efforts to involve and partner with First Nations and Métis peoples in wildlife management as well as seeking opportunities to incorporate Aboriginal and treaty rights and Indigenous interests into Ontario's wildlife management approaches.



*photo: Canada Lynx (Shutterstock)*



## 4. KEY TRENDS AND EMERGING ISSUES

### 4.1. Key Trends

Ontario has never had an overarching strategic plan for wildlife management<sup>1</sup>, but jurisdictions elsewhere in the world have considerable experience with such planning. A review of approaches elsewhere in the world reveals several key trends, all of which are consistent with *Biodiversity: It's In Our Nature*, and other Ontario strategic guidance:

- **ADAPTIVE MANAGEMENT OF HABITATS AND ECOSYSTEMS**, rather than species alone. For example, all US states and five US territories have completed Wildlife Action Plans that incorporate strategies to conserve key habitats. Other examples include Australia's National Wildlife Corridors Plan and the United Kingdom's National Ecosystem Assessment, which underlines the importance of managing ecosystems in a more integrated fashion, to achieve a wider range of services and benefits. Many plans also recognize the importance of broad-scale drivers such as a changing climate and population growth, and the need for enhanced ecosystem resilience. Adaptive management is now the norm for wildlife management in most jurisdictions.
- **PRIORITY THREATS TO WILDLIFE** are identified in most plans, and are consistent with those described in *Ontario's Biodiversity Strategy* and the Ontario government's implementation plan for advancing biodiversity conservation, *Biodiversity: It's In Our Nature*: habitat loss; invasive alien species; population growth; pollution;



photo: Black Bear  
(J.D. Taylor)

<sup>1</sup> *Biodiversity: It's In Our Nature* (2012) does however provide the Ontario government's overarching plan for biodiversity conservation. It establishes a biodiversity conservation vision, specific goals, objectives, and guiding principles, and lists the specific commitments of Ontario ministries to biodiversity conservation actions. This strategic guidance provides important context for a wildlife management strategy, including the need for management that considers broader spatial and temporal scales.

unsustainable use; and climate change. Some documents also acknowledge the importance of cumulative impacts of multiple threats, especially in the context of a changing climate.

- **THE HUMAN-WILDLIFE CONNECTION** is increasingly reflected in wildlife management strategies, including human-wildlife conflicts, human-wildlife health issues (including wildlife as vectors for disease), and socio-economic issues or drivers such as poaching, subsistence hunting/fishing, and recreation and tourism. There is also increasing acknowledgement of the need to manage wildlife not in isolation but rather as part of complex, broader social-ecological systems.
- **RECOGNITION OF THE VALUE OF NATURE** is another important theme seen in some plans, including consideration of the nonmonetary values of natural systems, and the important ecological services they provide, in conservation decision-making.
- **THE IMPORTANCE OF PARTNERSHIPS**, with stakeholders, with other agencies at all levels of government, and with Indigenous peoples.

photo: Male Spruce Grouse  
(Shutterstock)



## 4.2. Key Drivers and Opportunities

Review of the current wildlife management approaches within Ontario and elsewhere revealed a number of key drivers and opportunities affecting Ontario's wildlife. Table 1 presents a summary of results by driver type.

**Table 1:** Major categories of drivers affecting Ontario's wildlife and their supporting ecosystems

### SOCIAL



#### DRIVER

##### **Changing demographics, including:**

- **Human population growth:** Human population growth directly affects habitat and resource use. More people mean more competition for space and more development pressure on wildlife, with increased potential for conflict among those who use and enjoy the resource. A growing population increases the demand for residential and industrial development, roads, transmission corridors, and other infrastructure. This in turn causes habitat alteration, fragmentation and loss.
- **Population age:** An ageing population means fewer and older hunters and trappers and reduced revenues to the Fish and Wildlife Special Purpose Account; could necessitate changes in the funding structure for wildlife programs.
- **Population diversity:** An increasingly large proportion of the population is new Canadians; need to understand varied interests of these populations and create wildlife programming that meets their needs.

#### OPPORTUNITY

There may be opportunities to encourage provisions for wildlife corridors and habitat connectivity as development proceeds.

There are opportunities to broaden participation in hunting and trapping by:

- Offering a wider range of training, licensing and participation options tailored to particular demographic groups.
- Extending the range and variety of marketing and communications.
- Enhancing online sales of licences.
- Strengthening mentoring, education and information programs.

#### DRIVER

**More people living in cities:** Increasing urbanization means that fewer people have the opportunity to experience the outdoors through activities like hunting and fishing. This may necessitate changes in programming to address the needs of urban residents.

#### OPPORTUNITY

There are opportunities to reach a broader segment of the urban population, including new Canadians, through enhanced use of internet resources and social media.





## SOCIAL

### DRIVER

**Lack of connection between people and nature:** Fewer people now experience nature first-hand.

### OPPORTUNITY

Recent reports including *The State of Ontario's Biodiversity 2015* and the 2012 Canadian Nature Survey reflect strong public awareness of the linkage between human health/well-being and biodiversity and ecosystem services. This awareness creates opportunities to encourage people to reconnect with nature, pursue more active lifestyles, and increase their involvement in conservation activities.

### DRIVER

**Increasing interest in habitat conservation,** as demonstrated in participation in conservation organizations and the growing number and size of land trusts.

### OPPORTUNITY

Conservation organizations, including land trusts, are important partners in biodiversity conservation. There is an opportunity to extend and strengthen these partnerships in the management of specific habitats or landscapes.

### DRIVER

**Increasing interest in wildlife viewing:** Many jurisdictions are experiencing an increase in the number of people expressing interest in bird watching and nature study activities, and in general wildlife viewing. This trend has been consistent over the last 20 years and may be expected to continue.

### OPPORTUNITY

There are opportunities to encourage participation in wildlife viewing through structured activities, for example in Ontario provincial parks, and through enhanced online resources, including video.

### DRIVER

**Interest in healthy lifestyles and a clean environment:** Balancing the trend toward urbanization and disconnection from nature, there is growing interest in society in healthy lifestyles, exercise, and the importance of a clean environment. Interest in conservation and private stewardship is now higher than in previous generations.

### OPPORTUNITY

The trend toward healthy, local food could increase the number and diversity of those with an interest in hunting and wildlife management.

Growing interest in conservation and private stewardship creates opportunities to enhance habitat conservation.

## SOCIAL



### DRIVER

#### **Increasing frequency of human-wildlife**

**interactions:** Conflicts between humans and wildlife are increasing and are causing impacts on human quality of life, property, and health. Examples include urban wildlife foraging in garbage or nesting in buildings; damage to crops, landscaping, and structures; road flooding and infrastructure damage as a result of beaver dams; challenges for road safety; and as disease vectors. In addition to the damage and disturbance these interactions cause, human-wildlife conflict creates a demand for new education programs and communications materials, and even for intervention support in some cases.

### OPPORTUNITY

Stakeholders are effective partners, well informed and actively involved in decision making processes. There is an opportunity to increase capacity for natural resources management through stakeholder engagement; an example is the Town of Oakville's public awareness program related to coyotes in the urban environment (see <http://www.oakville.ca/environment/featured-wildlife.html>).

## TECHNOLOGICAL



### DRIVER

#### **Changing expectations about mechanisms for and speed of information access:**

People now expect immediate access to data and other information related to natural resources management, and information tailored to the needs of specific groups or interests. There is growing reliance on communication through the internet and social media. Changing technology also opens up the potential for more efficient wildlife harvesting, which could have implications for management programs.

### OPPORTUNITY

Social media offers a powerful tool for service delivery, education and outreach.

New technologies increase monitoring efficiency and facilitate monitoring at broader scales, and facilitate faster and more efficient data collection and analysis.

There are also opportunities to engage the public through citizen science that makes use of technological advancements.



## POLICY

### DRIVER

**Stakeholder and public involvement in policy development:** There is a growing trend toward open access to government data and information, and increased transparency and accountability in government. There is an expectation of meaningful stakeholder and public engagement in public policy decisions.

### OPPORTUNITY

Effective stakeholder engagement is part of a collaborative approach to wildlife management, and offers the opportunity to incorporate diverse perspectives representing a broad spectrum of Ontarians. This helps to create a strong policy foundation for the future, including transition to landscape scale management, risk-informed decision making and adaptive management.

Effective stakeholder engagement is part of a collaborative approach to biodiversity conservation, and offers the opportunity to incorporate diverse perspectives representing a broad spectrum of Ontarians.

### DRIVER

**Policies that encourage habitat alteration:** Some public policies, for example those related to the development of biofuels, could result in habitat conversion to agricultural or industrial uses.

### OPPORTUNITY

There are opportunities to create and strengthen partnerships with industrial and municipal stakeholders in the protection of wildlife and their habitats, for example through protection of equivalent habitat in another location.

There are opportunities to use market-based policy approaches to encourage habitat conservation, for example through habitat offset incentives, conservation banking and green investment.



photo: Common Grackle (Shutterstock)



**DRIVER**

**Multijurisdictional and transboundary management of wildlife:** Many wildlife issues cross jurisdictional borders and/or involve management at several levels of government. There is a need for clear communication with partner agencies and governments, and with other levels of government, including municipalities, to manage issues of mutual concern.

**OPPORTUNITY**

There are opportunities for enhanced collaboration and streamlining/harmonization across multiple levels of government to find efficiencies in processes while maintaining environmental protection.

**DRIVER**

**Aboriginal and treaty harvesting rights:** There are established and asserted Aboriginal and treaty rights to harvest wildlife across Ontario, and constitutional obligations to consult with Indigenous communities about government decisions that could adversely impact Aboriginal or treaty rights. There is a need to work with Indigenous communities to ensure Ontario's wildlife management policy decisions appropriately consider and respect Aboriginal and treaty rights.

**OPPORTUNITY**

There are opportunities to increase and enhance partnerships with Indigenous communities and organizations in wildlife management.



photo: Eastern Coyote – Grand Bend, Ontario, Canada (Shutterstock)



### DRIVER

Climate change will cause a variety of impacts on biodiversity and physical systems:

- **Habitat changes** that will alter community composition in ways that are difficult to anticipate, causing shifts in the distribution of species, creating new species interactions (e.g., predator-prey, competition) and placing additional stress on vulnerable or slow-moving populations.
- **Increased frequency of extreme weather events:** Climate change is resulting in an increase in the frequency and magnitude of extreme weather events, including storms, flooding, and drought, with associated impacts on wildlife and their habitats.
- **Shifting plant and animal life cycles:** Climate change will cause changes in plant and animal life cycles, for example related to the timing and availability of food sources and reproductive habitat.

**Increased opportunities for establishment and spread of invasive species and pathogens:** Invasive species and non-native pathogens are already having a marked impact on Ontario ecosystems. A warming climate will increase the likelihood that new invasive species will become established and spread to regions that were formerly outside their range of tolerance.

### DRIVER

**Habitat loss, alteration, and fragmentation,** including wetland filling and drainage. Human development has already resulted in significant changes to wildlife habitat. This trend can be expected to continue with population growth and associated development pressure.

### OPPORTUNITY

There is potential to diversify hunting and wildlife viewing opportunities, particularly for non-traditional species and those that benefit from climate-change scenarios.

Analysis of broad-scale stressors and the cumulative impacts of multiple stressors creates opportunities for new partnerships related to monitoring, science, and information management.



photo: Gray Squirrel (Shutterstock)

### OPPORTUNITY

There are opportunities to build and strengthen private and public stewardship initiatives through internet resources and social media, and through collaboration with partner organizations and agencies on joint habitat conservation and restoration initiatives. For example, the City of Ottawa collaborated with local conservation authorities and the National Capital Commission in the preparation of a Natural Heritage System plan.



**DRIVER**

**Reduced licence sales:** The average age of hunters is increasing, and over time this may lead to reduced licence sales and therefore less revenue for wildlife management into the Special Purpose Account (SPA) for MNRF.

**OPPORTUNITY**

There may be opportunities to offset decreases in hunting participation with new programs to encourage participation by under-represented groups, particularly youth and new Canadians.

**DRIVER**

**Globalization of trade:** International movement of people and goods facilitates introduction of invasive species and pathogens.

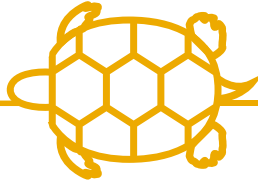
**OPPORTUNITY**

Growth of the international middle class may offer potential for new hunting-related tourism markets.

Increased within-province travel by Ontarians may provide opportunities to increase the contribution of hunting and wildlife-related recreation to local economies.



photo: Red Fox (Shutterstock)



## 5. BUILDING A WILDLIFE MANAGEMENT STRATEGY FOR ONTARIO

The drivers listed in Table 1 emphasize the need for a sound strategy that can serve as a framework for how Ontario will address emerging challenges in wildlife management.

Currently, strategic guidance for the management of Ontario's wildlife extends only to individual species and a few species groups. A comprehensive strategic plan for wildlife management should provide broad guidance for all of Ontario's wildlife, their habitats, and ecosystems. It can also help guide the work of partners and stakeholders working across the same landscapes, evolving over time as part of the ministry's adaptive management approach.

### A STRATEGIC PLAN IS ESSENTIALLY A DETAILED ROAD MAP TO A DESIRED FUTURE. IT SHOULD INCORPORATE THREE LEVELS OF GUIDANCE:



Level  
**1**

Broad, aspirational **goals** that reflect the desired future condition,



Level  
**2**

Specific **objectives**, often framed around particular areas of activity, and indicators that can be used to measure progress toward those objectives, and



Level  
**3**

A series of **steps** or **tactics** that are intended to advance progress toward goals and objectives.

A strategic plan for wildlife management will further provide a framework that clarifies program and activity interrelationships and guides action within the broader policy context, as illustrated in figure 2.

## Constitution of Canada Federal and Provincial Legislation

MNRF  
Strategic  
Direction



Long-term  
Strategic Directions  
and Priorities  
for MNRF

Proposed Wildlife  
Management Strategy

*Linking Strategic Direction  
and Wildlife Management*

### Policy

Guiding decisions related to the protection and management of wildlife

### Management

Implementing wildlife resource management planning and activities

### Enforcement

Compliance planning and activities to support wildlife management priorities

### Science and Information

Delivery of data, information and knowledge to support wildlife management priorities

Figure 2: The policy context. A strategic plan for wildlife management must align with the current policy context and show how existing strategic, ecological policy can be operationalized in key program activity areas.

A strategic plan for Ontario's wildlife should speak to conservation considerations, but also to the administrative and policy framework necessary to support the intended work. It should clearly articulate the principles that will guide MNRF in the development of future wildlife policy, management decisions, and science and monitoring priorities. It should not, however, include proposals for changes or additions to laws or provide detailed operational advice.

## 5.1 Proposed Purpose, Goals and Guiding Principles

MNRF's strategic guidance document, [MNRF Horizons 2020: A New Strategic Vision for the Ministry of Natural Resources and Forestry](#) (2015):

- **sets out MNRF's vision as** a healthy and naturally diverse environment that enables and contributes to sustainable development in Ontario.
- **and its mission** to manage our natural resources in an ecologically sustainable way to ensure that they are available for the enjoyment and use of future generations.

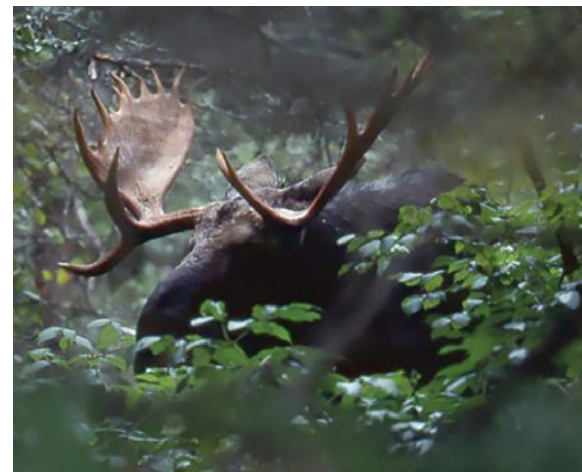
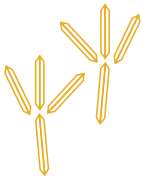


photo: Moose (J.D. Taylor)



**IN LIGHT OF THIS GUIDANCE, THE MINISTRY IS EXPLORING A PURPOSE AND FOUR BROAD GOALS FOR WILDLIFE MANAGEMENT:**



**Purpose:** To improve the conservation and management of Ontario’s wildlife; and to promote, facilitate and encourage activities related to wildlife that contribute to the social, cultural and economic wellbeing of individuals and communities.



**Sustainable wildlife populations** that provide ecological, social, economic and cultural benefits for all Ontarians



**An effective and efficient** wildlife management program that is supported by sound governance and an effective regulatory and policy framework



**Wildlife policy** development and management decisions that are informed by **science and information**, including local and traditional ecological knowledge



**Informed and engaged** stakeholders, partners, Indigenous communities, and general public



photo: North American Beaver (Shutterstock)

**AS THE MINISTRY LOOKS AHEAD TO THE DEVELOPMENT OF A WILDLIFE MANAGEMENT STRATEGY, IT IS CONSIDERING THE FOLLOWING SIX GUIDING PRINCIPLES:**



**PRINCIPLE 1**

**Manage at appropriate scales:** Use ecological processes, functions and structures to help identify ecologically meaningful scales of management across time and space. Use social and economic factors to adjust scale and ensure good value is received for the effort and costs of wildlife management.



**PRINCIPLE 2**

**Integrate and coordinate:** Consider the range of wildlife management and related activities, and enhance coordination of efforts and policies with other program areas and with other government agencies, partners, and stakeholders.



**PRINCIPLE 3**

**Manage and mitigate risk:** Assess and manage risk to the resource and those who benefit from it; focus efforts and resources on the highest-priority issues and areas. Evaluate the impact of management decisions at broad temporal and spatial scales, and identify areas where finer scales of management are necessary.



**PRINCIPLE 4**

**Facilitate adaptive management:** Recognize the inherent uncertainty in human and ecological systems; identify and fill information gaps using science, information and technological resources, and local and traditional ecological knowledge. Review and revise management approaches periodically.



**PRINCIPLE 5**

**Recognize the interests and contributions of hunters and trappers:** Hunters and trappers contribute valuable resources and information to support wildlife conservation. Continue to recognize hunting and trapping as culturally, socially and economically important.



**PRINCIPLE 6**

**Recognize Aboriginal rights and interests in wildlife resources:** Recognize Aboriginal and treaty rights, as well as Indigenous interests, in wildlife resources and reflect in MNRF's plans and activities. Continue to work with Indigenous communities to meet the province's constitutional and other obligations in respect of First Nation and Métis peoples, including the duty to consult and, where appropriate, accommodate.



photo: River Otter (Shutterstock)



photo: Blue Jay  
(Shutterstock)

## 5.2. Establishing Ecologically-Based Wildlife Landscape Zones

One of the aspects that will be considered in the plan is the scale of management. Over the years, wildlife management strategies have evolved in response to specific management challenges. In some cases, accommodating a diverse range of social, economic, cultural and recreational interests has led to finer scales of management, more frequent decision making, and variation in the approaches applied across the province and across species. As a result, it is necessary in some circumstances to expand current scales of management to address the broad-scale pressures facing wildlife populations.

In response to the guidance in *Taking a Broader Landscape Approach*, and, as part of the development of a strategic plan, MNRF is proposing to establish Wildlife Landscape Zones (WLZs) as an organizing concept for a modernized, effective and efficient framework for wildlife management.

The following are some considerations that could apply in the development of Wildlife Landscape Zones.

### **Wildlife Landscape Zones should be based on ecoregions and existing ecological frameworks**

Wildlife populations are part of complex ecosystems, and are therefore fundamentally linked to the habitats they rely on, including ecological features such as geology, climate and vegetation. Ontario's Ecological Land Classification (ELC) system delineates three distinct "ecozones" in the province: the Mixedwood Plains (found mostly in Southern Ontario, about 9% of the province); the Ontario Shield (most of Central and Northern Ontario, about 66%); and the Hudson Bay Lowlands (adjoining Hudson and James Bays, about 25%)<sup>2</sup>. Each exhibits a unique combination of climate, surface and bedrock geology, and plant and animal species.



photo: Spotted Salamander  
(Joe Crowley)

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<sup>2</sup> Three broad ecozones are described for Ontario: the Hudson Bay Lowlands in the northernmost part of the province; the Ontario Shield; and the Mixedwood Plains. For more information, see: Crins, William J., Paul A. Gray, Peter W.C. Uhlig, and Monique C. Wester. 2009. *The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions*. Technical Report SIB TER IMA TR-01.

Nested within the ecozones are 14 ecoregions, two in the Mixedwood Plains; nine in the Ontario Shield; and three in the Hudson Bay Lowlands. Ecoregions reflect regional climatic patterns, landscape form, soil types, and dominant vegetation, and thus broad regional patterns in habitat type and distribution. For this reason, ecoregions are an informative classification level for a systems approach to wildlife management (Figure 3). Ecoregions are further divided into finer scale ecodistricts.

Ontario's ecoregions also form the basis of forestry landscape guides, wildlife habitat classification, and existing ecological management frameworks for several wildlife species. MNRF used Ontario's ecoregions, and information from existing ecological management frameworks, as a primary consideration in suggesting potential Wildlife Landscape Zone boundaries.

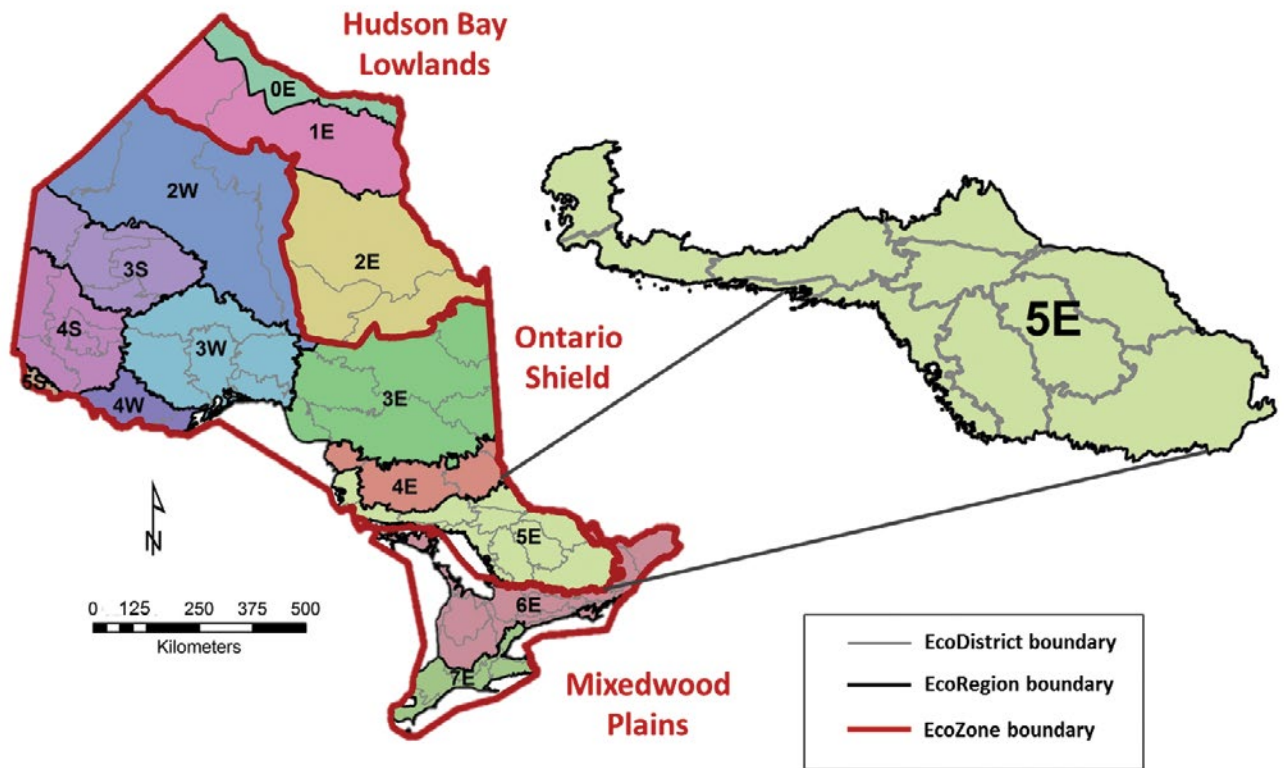


Figure 3: Georgian Bay EcoRegion, 5E.

Where relevant, information at the finer level was used to partition larger zones to ensure that management can be responsive to differences in wildlife communities and populations across their range of distribution. Wildlife Landscape Zones based on this nested ecological framework would reflect broad patterns in key ecological features.

Ontario's species at risk and their habitat are protected under the *Endangered Species Act, 2007*. Landscape species like the boreal population of caribou, which is listed as Threatened in Ontario, interact directly and indirectly with many other northern species such as moose, white-tailed deer, black bear and wolf. For this reason, it is important that wildlife population and habitat management activities consider the status and potential interactions of all species on the landscape.

#### **Wildlife Landscape Zones should be informed by wildlife systems and landscape productivity**

Taking a systems-based approach to wildlife management means understanding how different parts of the system are connected in structure and function across space and over time. It also means understanding how changes in components or processes affect the system overall.

#### **Wildlife Landscape Zones should improve administrative efficiency**

In addition to being ecologically relevant, the scale and boundaries of Wildlife Landscape Zones must be relevant to and efficient for administrative and management systems, and should be built with regard to existing frameworks. In particular, WMUs offer an established and useful set of “building blocks”, from which to develop broader-scale Wildlife Landscape Zones. This approach enables scalable management efforts (e.g., desired wildlife outcomes can be determined at the level of a landscape or ecosystem, with some associated management decisions implemented at the WMU level). It also ensures retention of familiar boundary features, such as roads and rivers that are easily identified by people such as hunters, trappers, and enforcement officers in the field. Figure 4 shows scales of wildlife management in Ontario.



photo: White-tailed Deer  
(Kaitlyn Fleming)

Finally, wildlife systems are affected by social and economic factors such as human population density and hunter effort. These considerations are especially important in landscapes that have been modified by development, agriculture, or other human activities. Information of this kind can help to inform the size and distribution of Wildlife Landscape Zones.

Figure 5 illustrates a possible system of new Ontario Wildlife Landscape Zones. This map shows a configuration based on 35 zones, built from the current system of 151 WMUs. If a system like this were to be adopted, many management decisions would continue to be made at the level of WMU, but the new Wildlife Landscape Zone system would offer a framework for analyzing and responding to patterns and trends across the broader landscape. The ministry invites input from stakeholders, members of the public, and Indigenous peoples on this concept. Section 6 sets out some discussion questions and describes how to submit feedback.

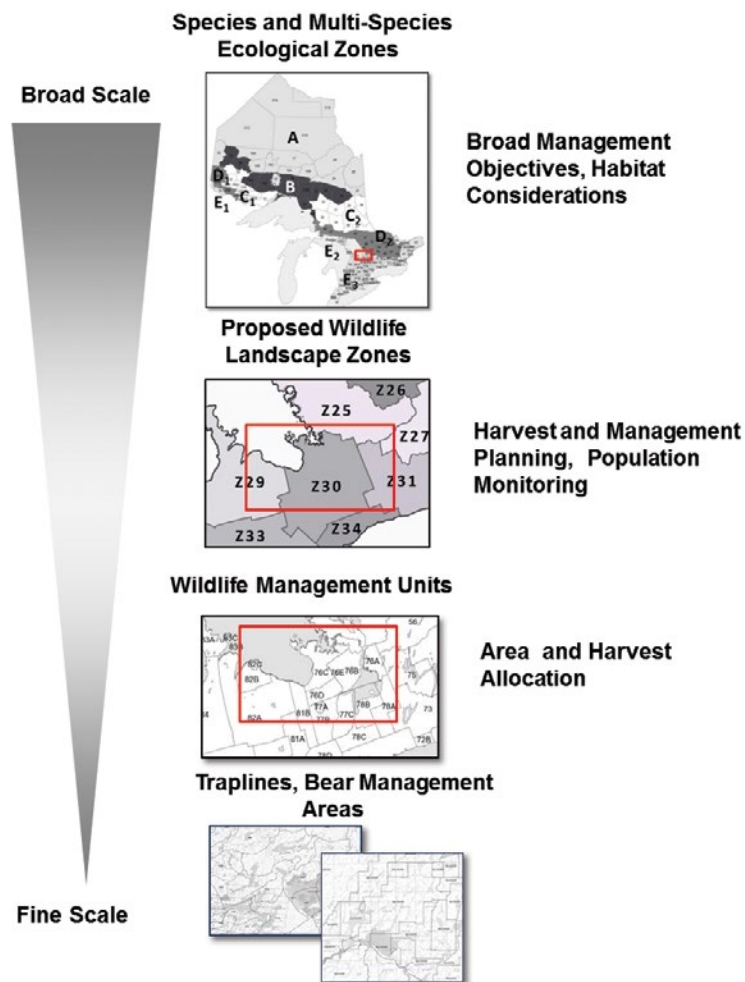


Figure 4: Ontario's Wildlife Management Scales.

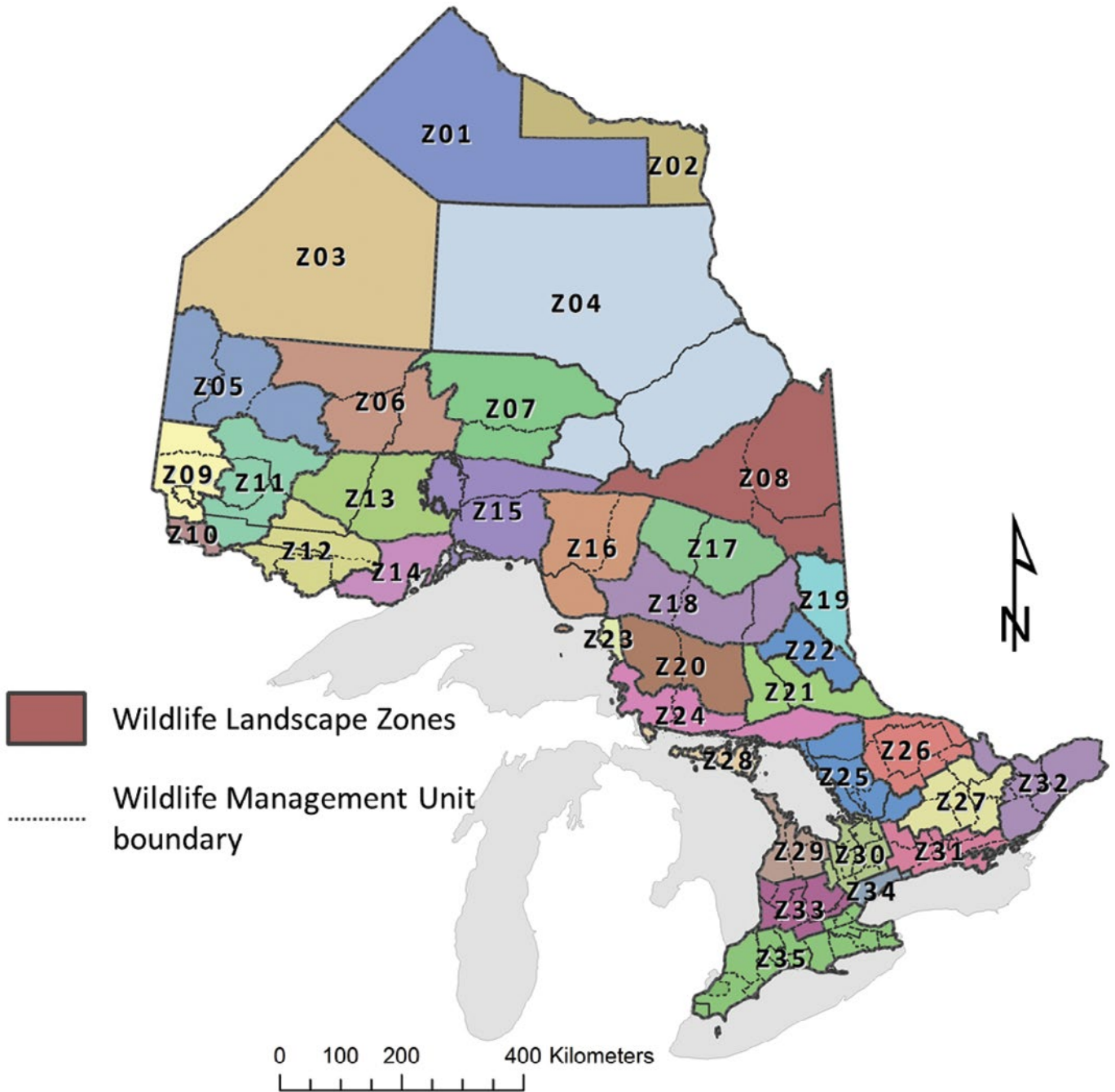


Figure 5: A possible configuration for a new system of Ontario Wildlife Landscape Zones. The concept illustrated here has 35 Wildlife Landscape Zones, built from the existing 151 WMUs.

### 5.3. Managing Wildlife Over Longer Time Periods

The scales at which management planning and implementation occur can vary across time and space in different situations. Depending on the management objective in a given situation, appropriate time scales could range from months or years to decades or more.

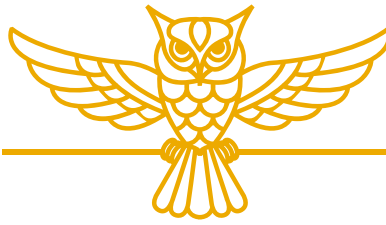
Biological and reproductive characteristics, habitat requirements, level of harvest and other pressures on a species can all inform how intensively a species should be managed, including the time period over which decisions are made and actions taken. For example ruffed grouse have high reproductive rates and a very large provincial population relative to hunter demand and therefore do not require frequent changes in management approaches; moose have slower rates of reproduction, high harvest demand relative to population size and face additional pressures requiring more intensive management.

The frequency of decision making should reflect the time scale of ecological processes, risks to the resource, and response to changes in management as part of an adaptive, risk-based approach.



photo: (John Butterill)





## 6. THE PATH FORWARD

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Broad input is critically important as MNRF embarks on strategic planning for wildlife management. We want to hear from stakeholders, the public, partner agencies, and Indigenous peoples on the opportunities and challenges they believe may lie ahead. Based on the feedback we receive in response to this discussion paper, the ministry will draft a provincial Wildlife Management Strategy. That strategy, like this discussion paper, will be made available for comment. As planning proceeds, there will be additional opportunities for comment about specific program-level change. The Ministry is also developing a Small Game and Furbearer Management Framework and a White-tailed Deer Management Policy that will be posted for public review and comment. Both of these initiatives will embrace the broader landscape approach to wildlife management.



*photo: Snowshoe Hare (Shutterstock)*

Your feedback is important. What do you think about the concepts outlined in this paper? As you prepare your comments, please reflect upon the following questions:

- 1) Which wildlife management aspects or activities (e.g. hunting, trapping, protection of property, possession, buying, selling of wildlife, wildlife health, habitat) do you believe are most important to address within a Wildlife Management Strategy for Ontario? What do you see as the key priorities for these activities?
- 2) How do you think wildlife management in Ontario might need to change to respond to the trends and issues identified in Section 4?
- 3) Do you agree with the goals and guiding principles in Section 5? Do you have ideas for other goals or principles that could be added?
- 4) What are some actions and activities that government, organizations and individuals could take to improve wildlife management in Ontario?
- 5) What do you think are the advantages of MNRF moving toward managing wildlife over broader areas and longer time frames? What aspects will require particular caution or attention?

There are three ways to get involved in the discussion:

- Provide your comments and suggestions via the Environmental Bill of Rights Environmental Registry posting by visiting [www.ebr.gov.on.ca](http://www.ebr.gov.on.ca) and entering posting number 012-8249. Comments will be received through to November 17, 2016.
- Submit comments to [wildlifepolicy@ontario.ca](mailto:wildlifepolicy@ontario.ca).
- Complete a survey at <https://www.surveymonkey.com/r/wildlifemgmtstrat>.

The ministry welcomes your input, and invites you to be part of what we hope will be a productive dialogue about strategic planning for the management of Ontario's wildlife.



*photo: Ruffed Grouse  
(Stephen Phillips)*



*(photo by P. Hubert)*