



Game Management Plan

2018-2028



Government
of
Saskatchewan

Core Document



Table of Contents

Executive Summary	1
Overview	3
Plan Development	4
Treaty and Aboriginal Rights	4
Plan Principles	5
Migratory Game Birds	6
Considerations in Game Management	7
Science-based Decision Making	7
Habitat Conservation	7
Maintaining Habitat on Crown Land	7
Maintaining Habitat on Privately-owned Land	8
Landowner Assistance Programs for Wildlife Damage	8
Allocation of Wildlife Resources	9
Wildlife Management Zones	9
Licensing	10
Regulatory Compliance, Awareness and Enforcement	11
Public Involvement in Game and Habitat Management	12
Conservation Partnerships	12
Advisory Committees	12
Citizen Science Surveys	13
Climate Change	14
Game Management Plan Outcomes	14
Outcome 1	15
Sustainable management for the conservation of game species and their habitat	
Outcome 2	19
Equitable allocation of game species to optimize social, cultural and economic benefits	
Outcome 3	21
Shared responsibility and public engagement in wildlife management	
Plan Implementation, Review and Evaluation	23
Glossary	24
Acronyms	25
Bibliography	26

Cover photo credits:

Black Bear and Pronghorn – Hamilton Greenwood

Ruffed Grouse – John Conkin

Executive Summary

Saskatchewan's many and varied game species are a public resource belonging to all Saskatchewan residents. Wildlife resources are allocated in the following priority: conservation; First Nations and Métis rights holders; Saskatchewan residents; licensed outfitters; and non-residents. The responsible use and conservation of these resources is the responsibility of the Government of Saskatchewan.

Maintaining ecological integrity and ecosystem resilience is fundamental to sustaining adequate wildlife habitat and game species populations. Looming challenges that threaten conservation efforts such as climate change, shifting land use and the ever-changing dynamics of social, economic and environmental factors have prompted the need for a strategic plan to address these matters. As such, Saskatchewan is developing a plan to advance a focused effort on priority actions to ensure we maintain game species populations and habitat for future generations.

As part of a broader wildlife stewardship initiative, the *Game Management Plan* (GMP, or 'the plan') will assemble the best available knowledge of game population management in Saskatchewan, and detail a consistent, science-based, landscape level approach to habitat conservation and management of game species over the next decade.

The GMP *Core Document* provides an overview of why a strategic plan is necessary, how the plan was developed and the fundamental principles that will guide game management activities in the province. The *Core Document* also

frames the fundamental considerations required in game management such as habitat conservation on Crown and private lands, species conservation and management, allocation of game resources, regulatory compliance, awareness and associated enforcement, public involvement and the impacts of climate change.

An overview of the GMP is found below with the identification of the main outcomes, goals and management objectives for game species and habitat in Saskatchewan. Specific measurable actions have been listed within the plan as required steps to meet each of the management objectives.

Outcome 1

Sustainable management for the conservation of game species and their habitat

Goal 1.1

Identify and maintain habitat to support wildlife populations.

- Improve understanding of game species habitat use and distribution
- Maintain and connect remaining natural habitats and corridors of wildlife species on Crown and private land.
- Monitor and address cumulative changes on the landscape.
- Implement mitigation principles in priority order to 1) avoid, 2) minimize, and 3) offset development effects on important habitat for game species and other fish and wildlife.

Goal 1.2

Maintain sustainable game species populations.

- Develop effective policies to support the ecological needs of species in light of changing physical and social environments.
- Increase collaboration with other jurisdictions to facilitate cohesive management across borders.
- Reframe management of wildlife disease and environmental contaminants within the context of managing for wildlife population health.
- Limit the impact of invasive and non-native species on native wildlife.

Goal 1.3

Develop an information management framework that supports decisions based on science and local knowledge.

- Utilize the best-available data to inform management decisions.
- Seek partnerships, external funding and link to science networks to strengthen management capacity.
- Engage the public in wildlife data collection.
- Better understand the vulnerability of Saskatchewan's game species to long-term changes in climate and weather trends.

Outcome 2

Equitable allocation of game species to optimize social, cultural and economic benefits

Goal 2.1

Manage wildlife harvest to provide a diversity of hunting opportunities that can be managed and maintained for future generations.

- Annually allocate harvest opportunities for game species using the information available for each species.
- Ensure regulatory and policy framework remains current, simple, effective and encourages compliance.
- Use and further develop the automated licence system as a game species management tool.

Goal 2.2

Maintain hunting opportunities and access to wildlife.

- Maintain hunter access to Crown land.
- Promote good relationships with private landowners.

Outcome 3

Shared responsibility and public engagement in wildlife management

Goal 3.1

Improve public awareness.

- Communicate Saskatchewan's approach to wildlife management by sharing information on wildlife populations and management strategies with members of the public.
- Promote collaboration among ministries, agencies, stakeholders, First Nations and Métis organizations vested in wildlife management.
- Promote personal stewardship of wildlife habitat on private land.
- Reduce risk to public safety, property and wildlife.
- Support partnership programs to promote conservation and hunting.
- Identify incentives to recruit new hunters and to retain active hunters.

Plan Implementation, Review and Evaluation

The GMP provides a framework for management of game species over the next 10 years, but is intended to be adaptive to environmental and human elements of the landscape. As such, the ministry will report regularly on progress and will undertake a review in 2023 to ensure the outcomes, goals and actions remain on track and relevant to the current needs of game management in Saskatchewan.



Overview

Vision

Healthy, stable game species populations, diverse supporting ecosystems and effective management systems that provide varied benefits for Saskatchewan



Saskatchewan's many and varied wildlife are a public resource belonging to all Saskatchewan residents. Since 1905, the responsible use and conservation of these resources, on behalf of the public, has been the responsibility of the Government of Saskatchewan.

In the early 1900s, the near extirpation of game species led to the need for effective conservation through the establishment of sound laws, efficient enforcement and broad education efforts to restore Saskatchewan's wildlife populations. Many of the conservation principles established then are still relevant today, even though, over the last 100 years, many things have changed in Saskatchewan's economy, land-use patterns and the public's perception of how wildlife is managed. Today, traditional management approaches need to evolve with advances in wildlife science and to address broad challenges within government's human and financial resource constraints. To achieve this, Saskatchewan has developed a strategic plan to focus on priority actions required for healthy game populations.

The *Game Management Plan* assembles the best available knowledge of game population management relevant to Saskatchewan, and provides a solid and consistent landscape approach to habitat conservation and allocation of game species. The GMP is a dynamic, living framework that has the flexibility to respond to the adjustment of priorities and actions. This flexibility will facilitate management of game species and habitat in light of changing factors, such as the impacts of climate change, human population growth, risk of the spread of invasive species and disease, habitat alteration and loss, and economic pressures. While challenges and solutions may differ from northern to southern Saskatchewan, the plan is provincial in scope and guides the management of big game and game bird species as listed below. The scope of the GMP encompasses those areas of game species management under statutory control of the government. Although focused on game species, actions outlined in this plan will benefit a wide range of wild species and their habitats, and support the Ministry of Environment's (ministry) goals for the conservation of biologically diverse ecosystems.

Big game species	Game bird species
White-tailed deer	Sharp-tailed grouse
Mule deer	Ring-necked pheasant
Moose	Spruce grouse
Elk	Gray partridge
Barren-ground and Woodland caribou	Ruffed grouse
Black bear	Willow and Rock ptarmigan
Pronghorn	Ducks
	Coots
	Geese
	Sandhill cranes
	Snipe

Plan Development



Development of the GMP responds to stakeholder interest for conservation of game species in the province. Throughout the development of the draft plan, the ministry met regularly with the Wildlife Advisory Committee (WAC), which represents many wildlife conservation and landowner stakeholders, the Federation of Sovereign Indigenous Nations (FSIN) and Métis Nation–Saskatchewan. Discussions from these meetings illustrated the need for the plan to deliver on tangible actions to ensure decisions are consistent, fair to all interests, and reflect the necessary balance between conserving our natural resources and the demand for social and economic opportunities. The WAC provided thoughtful analysis on the key issues and solutions related to wildlife management.

The plan was also informed by the Saskatchewan Wildlife Federation's White Paper titled *Towards a New Game Management Plan for Saskatchewan*, which provided

important perspectives on key considerations for long-term management of game species in Saskatchewan.

The ministry is committed to providing credible, up-to-date information in a clear and concise format to actively involve the public and interested organizations in decisions that will affect them. Active participation of hunters, landowners and the public in the plan's development and implementation is fundamental to its success.

Input was sought from key conservation and agricultural organizations, provincial ministries and agencies, the federal government, tribal councils, FSIN, independent First Nations, Métis Nation – Saskatchewan, Métis Nation – Saskatchewan regional directors, and WAC member organizations to ensure a broad range of perspectives were considered in the final plan. All comments received were given careful consideration.

Treaty and Aboriginal Rights

Recognition and appropriate accommodation of constitutionally protected Treaty and Aboriginal rights is an overarching consideration for game management in the province. As such, the ministry ensures that legislation, planning and allocation of wildlife resources can sustain harvest, and provide first priority to harvest under Treaty or Aboriginal rights. In addition, as appropriate, the province fulfills its legal duty to consult responsibilities in a manner consistent with the Government of Saskatchewan *First Nation and Métis Consultation Policy Framework (2010)*.

Sustainable wildlife populations, habitat and access to land to harvest wildlife for food purposes are central to First Nation and Métis interests, and knowledge of traditional uses is central to government's ability to meet the associated constitutional commitments. The Game Management Plan enables engagement with First Nation and Métis communities to understand the interests associated with the harvest of wildlife, the nature and scope of the harvest, and areas of shared interest for involvement in game management outcomes. Achieving these outcomes is important to the success of the plan.

For additional information on Treaty and Aboriginal Hunting Rights, the ministry has a document that further outlines these constitutional rights: *Saskatchewan Treaty and Aboriginal Rights for Hunting and Fishing Guide*.

Plan Principles



1. Crown lands, waters and wildlife are held by government in trust for the benefit of all people

In Saskatchewan, regulations state that wildlife is “vested in the Crown” and the role of the ministry is to ensure these resources are maintained in trust for the people of Saskatchewan in perpetuity. Saskatchewan has a history of providing quality hunting opportunities and the long-term management strategies identified in this document are intended to maintain these opportunities into the future.

2. Wildlife management will be based on sound ecological, environmental and social factors

Ecological factors (such as species life history traits, population levels, habitat and conservation status), environmental factors (such as weather and effects of climate change), and social factors (such as animal welfare, landowner relations and public tolerance of wildlife) all have a role to play in wildlife management. The ministry is committed to using the best-available scientific, traditional and local information, to inform its decisions.

3. Manage game populations and their habitat at the landscape scale with the goal being conservation of healthy game populations over the long term

Policies, legislation and management actions should focus on the long-term conservation and sustainable use of wildlife. Conservation and management measures, whether at the local, wildlife management zone, or provincial level, will be designed

to ensure the long-term sustainability of game species and maintain the quality, diversity and availability of habitat on the landscape in sufficient quantities for present and future generations. Short-term considerations should not compromise these objectives.

4. Use precautionary, adaptive management approaches to wildlife and habitat management

Adaptive management implements decisions based on best available information and precautionary risk assessments, monitors outcomes effectively and adjusts actions based on analysis. This approach provides a formal and consistent means of evaluating management alternatives and ensures uncertainties are explicitly described and evaluated during the decision-making process.

5. Provide clear, understandable and effective wildlife management outcomes

Effective wildlife management requires clear objectives and actions, along with performance measures to assess if objectives are being met. The information relevant to these processes must be widely available to the public in order to establish confidence in strategies and ensure consistency and transparency in decision-making.

6. Management of one species will not be to the detriment of another

Best management of wildlife must fully consider a species' role in the ecosystem and allow for natural competition between species to occur in order for ecosystems to function properly. Game species will be managed as key elements

of broader natural systems to sustain hunting opportunity along with other wildlife and ecosystem management objectives.

7. Maintain fair and equitable access to wildlife that benefits Saskatchewan residents

Saskatchewan residents all have a stake and share in the conservation and use of the province's wildlife. A variety of affordable experiences need to be offered that meet Saskatchewan residents' preferences, including both consumptive and non-consumptive (e.g., ecotourism, photography) uses. Consideration must also be given to culture, heritage, social values and tradition.

8. Provide opportunity for open and meaningful citizen involvement that promotes shared ownership of conservation and sustainable use of wildlife and habitat

Effective wildlife management needs to engage people in the decision-making process. Public awareness and support for wildlife management actions are essential to sustaining wildlife populations and their habitat. The privilege or right to hunt carries with it the obligation to do so in a responsible manner to ensure effective conservation and management of wildlife resources and to actively participate in all game management initiatives that

benefit from public input or presence on the land (e.g., population or harvest surveys, disease monitoring programs, compliance reporting).

9. Promote compliance through education, enforcement and an effective legislative framework

The ministry strives to achieve high levels of voluntary compliance by setting clear regulations and educating client groups on those regulations. Hunter checks and investigations are important to ensure compliance with legislation and to enforce non-compliance situations.

Migratory Game Birds

Ducks, geese, cranes, coots and snipe form an important group of migratory game bird species, often referred to collectively as waterfowl, that provide significant opportunities for both licensed and subsistence hunters. Waterfowl are co-operatively managed by the responsible federal government agencies in Canada, the United States and Mexico, following protocols established under international treaty. Supporting this decision-making are the recommendations and species management plans that are developed by the Flyway Councils, of which Saskatchewan is a member. Within Canadian boundaries, management of migratory birds and their habitat is a shared responsibility of federal and provincial governments, with the Canadian Wildlife Service taking a lead role as the responsible federal agency.

Saskatchewan is an active partner and has an important role in continental harvest management and licensing decisions for waterfowl hunting. The province also has primary responsibility for managing the water and land resources that constitute waterfowl habitat through its regulations and policies; enforcing migratory bird hunting regulations; and partnering with environmental non-government organizations to enable various habitat conservation programs for waterfowl and other wildlife.

Saskatchewan is a charter member of the Prairie Habitat Joint Venture (PHJV), the largest joint venture under the North American Waterfowl Management Plan (NAWMP) partnership between Canada, the United States and Mexico. Through NAWMP and the PHJV, the Government of Saskatchewan helps to connect Saskatchewan conservation agencies to funding sources in Canada and the United States and focuses its efforts on conservation projects that address shared goals. Since 1986, the NAWMP-PHJV partnership has brought over \$600 million in conservation funding to Saskatchewan and together with partner contributions resulted in 1.8 million hectares of habitat restoration and securement and supported private agricultural land stewardship on an additional two million hectares in the province. These efforts have benefited a wide range of game and non-game species in addition to waterfowl.

The ministry will continue to engage in waterfowl management with our PHJV and Flyway partners and other stakeholders to ensure abundant waterfowl populations and quality waterfowl hunting into the future. While the fundamental principles and considerations outlined in the GMP apply to waterfowl management in Saskatchewan, the management of these species does not reside solely with the provincial government and any management plan for waterfowl will be developed cooperatively with partners including the Canadian Wildlife Service.

Considerations in Game Management

Habitat Conservation



Wildlife populations require suitable habitat to meet their daily needs of food, water, shelter, space and access to breeding partners. Therefore, game species management involves not only allocating harvest to accommodate a variety of users, but also maintaining suitable habitat for wildlife across all provincial landscapes.

A number of initiatives and programs have been developed to conserve suitable wildlife habitat. Habitat conservation and stewardship-focused initiatives often concentrate on the most at-risk habitats and species. However, there are policies and legislation to protect wildlife habitat on both private and provincial Crown land throughout northern and southern Saskatchewan, as well as initiatives that concentrate on conservation of wildlife and habitat across the province.

Maintaining Habitat on Crown Land

The majority of remnant natural lands such as forests and native grasslands in Saskatchewan are Crown land and confer a range of benefits to people including wildlife and habitat, flood prevention, water quality protection, climate regulation, pollination and recreational values. Effective management and stewardship of this

public natural capital is critical for the achievement of the GMP vision and other provincial objectives.

The Wildlife Habitat Protection Act is designed to protect key Crown lands south of the provincial forest that have been assessed as being critical for wildlife. The ministries of Agriculture and Environment co-operate in the assessment and protection of these lands while still maintaining them for agricultural production, such as grazing and haying. Within the commercial forest, the ministry reviews development proposals or activities from multiple industries. *The Forest Resources Management Act and Regulations* provide the legal framework for the development of plans for forest management activities conducted on Crown land in the province. For instance, forest management plans provide strategic-level direction for management of forest resources in a forest management agreement area or for a term supply licence area with a term greater than five years. Planning for the management and use of the forest resource is essential to ensure the ecological sustainability of Saskatchewan's forest.

The Environmental Assessment Act and the Saskatchewan Environmental Code

Science-based Decision Making

Science- or evidence-based decision-making is part of the management process that relies on the analysis of data, collected in a standardized manner, to inform the actions that achieve management objectives. Although science-based decision-making is widely used in game management already, today's technology provides better detail and better baseline information. Innovative means of collecting, storing and analyzing data are strengthening decision-making by wildlife and land managers when used in concert with historic data sets and local knowledge.



Photo credit: D. Sherratt

93,190 hectares of land are currently held by the Fish and Wildlife Development Fund. Many of these land parcels are held jointly with partnering agencies.

seek to protect and/or enhance the quality of the environment, not only for wildlife but also for humans. For instance, a promising avenue to habitat conservation in Saskatchewan is habitat mitigation, where project proponents from industry compensate for their environmental impacts, and landowners are simultaneously rewarded for their offsetting conservation actions in a buyer-seller market.

Maintaining Habitat on Privately-owned Land

An estimated 85 per cent of Saskatchewan lands south of the forest fringe are privately owned or managed. The success of wildlife management programs relies on the support of Saskatchewan landowners. While many landowners identify as stewards of the land and engage in stewardship activities on their own or through programs offered by non-governmental organizations, more can be done to promote initiatives that conserve wildlife habitat.

There are a variety of entities with mandates to acquire and protect key parcels of wildlife habitat via purchase, easements or incentive programs. These include the Fish and Wildlife Development Fund (FWDF), the North American Waterfowl Management Plan (NAWMP), as well as programs offered by the Saskatchewan Wildlife Federation (SWF), Ducks Unlimited Canada (DUC), Nature Conservancy of Canada (NCC) and Nature Saskatchewan. Strong partnerships with land managers are crucial to the fate of Saskatchewan's wildlife and remaining native habitats.

Well-established programs recognize and encourage landowner stewardship, such as Acres for Wildlife (SWF), Forage, Rangeland and Winter Wheat Programs (DUC) and Stewards of Saskatchewan (Nature Saskatchewan). As well, the Canadian Agricultural Partnership (CAP), a federal-provincial initiative, helps producers become aware of the environmental effects of their farm and improve environmental conditions through development of Environmental Farm Plans (EFPs). EFPs provide cost-share assistance to help producers protect and enhance

important habitat such as riparian areas and range lands. Additionally, Environment and Climate Change Canada has a number of stewardship programs which also benefit game species management in Saskatchewan.

On private lands, legislation such as *The Crown Conservation Easements Act* allows for a voluntary agreement between a landowner and a conservation easement holder to protect attributes of a landscape that are valuable for wildlife. The agreements may be for a fixed period or in perpetuity and often involve some incentive for the landowner. Incentive-based programs encourage landowners to implement best management practices for wildlife on their lands. Targeted conservation agreements between conservation organizations and the landowner on private land have been successful in maintaining or enhancing native habitat.

In addition, watershed plans are underway, or have been completed, for much of southern Saskatchewan. Watershed planning is a collaborative process for maintaining, protecting and restoring the natural resources within a watershed, while also enhancing the quality of life in our communities.

Landowner Assistance Programs for Damage from Wildlife

Current efforts by many landowners to conserve habitat is a key piece to maintaining sustainable wildlife populations. The extent of economic loss from wildlife damage, and the degree to which it is borne by the producer, shape an individual landowner's perceptions and tolerance for wildlife in working landscapes. These perceptions extend beyond preferred population levels for each species and influence a producer's willingness to retain or establish wildlife habitat. Effective government programs to prevent crop damage and compensate for unavoidable losses are essential to maintain landowner support for wildlife and habitat. Such public funding recognizes the general societal value that is placed on wildlife and the shared responsibility for maintaining wildlife on the landscape.

Saskatchewan has been a pioneer in providing assistance for farmers and ranchers dealing with economic losses due to game species.

Game species can economically harm the agricultural sector through damage to field crops, stored forage and grain, and horticultural plantings. Current programming provides 100 per cent compensation for losses, includes all game species and wild boar, and covers a wide variety of commercial field and horticultural crops and stored forage. Other forms of damage that are less readily quantified, but influence landowner tolerance, include damage to fences, tires punctured by shed antlers and damage to shelterbelts and ornamental shrubs. These impacts are not eligible for compensation under the existing programs.

Further to compensation for loss, there is also government funding available to support programming aimed at preventing or reducing wildlife damage. Funding in this area supports the operation of feeding stations and lure crops for waterfowl, and provision of fencing material, intercept feed, chemical deterrents and scaring equipment for big game and waterfowl. Potential exists to examine farm stewardship and crop insurance programs to encourage and reward compatible farm practices that reduce damage from wildlife.

Allocation of Wildlife Resources

Wildlife Management Zones

For the purposes of managing wildlife effectively, Saskatchewan is divided into wildlife management zones (WMZ) that group similar ecological and climate features and are defined by definitive geographic boundaries. These WMZs allow for managing game according to regional differences in both wildlife populations and human societal tolerances, rather than making management decisions on a province-wide basis. Although the specific boundaries of each zone have changed over time, WMZs have been used to manage big game species in Saskatchewan since the early 20th century. Presently, there are 83 WMZs in the province, ranging from agricultural zones in the south to forest and shield zones in the north, and three urban zones surrounding Saskatchewan's largest cities.

Due to the varying physical and human geography of the province, each WMZ may have specific regulations for which game species may be hunted, open season dates and permitted

methods of hunting. For example, in most agricultural zones, big game is primarily allocated through the big game draw (draw) with the exception of white-tailed deer, which is managed through a regular season harvest. Northern zones have some game species allocated through the draw, but have additional opportunities for white-tailed deer, elk and moose via regular seasons. The urban zones are managed using strategies that address challenges found in these densely human-populated areas.

An additional consideration in wildlife management regarding WMZs involves land tenure; land access for hunters in agricultural Saskatchewan is considerably different in comparison to northern zones. Land access for hunting in the agricultural and urban zones often requires landowner permission on what is primarily private land. Conversely, the provincial forest is Crown land and open for hunting purposes unless otherwise noted.

Interest in the Saskatchewan big game draw has tripled since 2006. More than 95,000 applications were submitted for the 18,000 licences available in 2017.

Licensing

A wide variety of user groups enjoy the benefits of healthy game species populations. In Saskatchewan there is significant interest in hunting and the ministry regulates sport and commercial harvest by licensing hunters and setting quotas. Decisions on the allocation of hunting licences are made on an annual basis, and include a variety of considerations such as species abundance, herd composition, herd health and landowner tolerance. The ministry, in consultation with the Wildlife Advisory Committee, developed the principles and rationale regarding allocation decisions for big game and game birds.

The primary mechanism for allocating licences is the automated Hunting, Angling and Trapping Licence (HAL) system. HAL was implemented in 2013 and offers customers the ability to purchase licences online, by phone, or at any authorized Saskatchewan licence issuer.

There are two primary licence types allocated for hunting in Saskatchewan: regular and draw licences. Regular licences are available over-the-counter and offer a hunting opportunity when the game population supply meets or exceeds hunter demand. Draw licences are allocated in specific WMZs when hunter demand exceeds game population supply. The Saskatchewan resident big game draw is a transparent

method of allocating a limited number of hunting licences, which has been in place since 1958 and allocates draw licences for moose, elk, mule deer and pronghorn.

Hunting opportunities differ according to an individual's resident status. Saskatchewan residents are offered the most diverse hunting opportunities with both regular and draw licences available for a wide variety of species. Canadian and non-residents can hunt migratory and most upland game birds, while for big game, non-resident and some Canadian resident hunters are licensed through the services of an outfitter. Outfitters are assigned an allocation area with pre-determined quotas for various game species including moose, bear, white-tailed deer and game birds. Saskatchewan also offers Canadian hunters the opportunity to hunt white-tailed deer through the Canadian resident white-tailed deer draw with priority given to applicants with immediate family members who are Saskatchewan residents.



Regulatory Compliance, Awareness and Enforcement

The primary acts and regulations that apply to game species management in Saskatchewan include:

*Saskatchewan
Environmental Code*

*The Dog Training
Regulations, 1982*

The Ecological Reserves Act

*The Firearm Safety/Hunter
Education Regulations,
2009*

*The Forest Resources
Management Act*

*The Migratory Birds
Convention Act, 1994*

*The Migratory Birds
Regulations*

The Natural Resources Act

*The Open Seasons Game
Regulations, 2009*

*The Outfitter and Guide
Regulations, 2004*

The Parks Act

*The Provincial Lands Act,
2015*

The Wildlife Act, 1998

*The Wildlife Habitat
Protection Act and
associated Regulations*

*The Wildlife Management
Zones and Special Areas
Boundaries Regulations,
1990*

*The Wildlife Regulations,
1981*

The history of wildlife management began more than 100 years ago with the development of game laws to regulate the harvest of certain kinds of fish and game species. Regulations provide the structure for this system and are necessary to achieve wildlife management targets and objectives. Hunting season dates, hunting areas, harvest quotas, bag limits and hunting methods are some of the tools used to manage harvest, all of which are established by regulation. Compliance with regulations is critical to meeting established wildlife management goals.

The ministry is responsible for protecting Saskatchewan's environment and natural resources, and ensuring those resources are managed and used sustainably. Conservation officers enforce both provincial and federal resource legislation, are duly appointed as special constables with full police powers under the authority of the Criminal Code of Canada, and are an integral component of wildlife management.

Regulatory compliance is made up of two components: education to ensure that hunters know the rules and do not inadvertently break the law, and enforcement of laws and regulations. In recent years, the ministry has delivered hunting and trapping information through the annual *Hunters' and Trappers' Guide*, the *Wildlife Management Report*, the ministry website, information sessions, field inspections and news releases. Additional avenues to promote awareness, such as social media, will be explored further. Non-government organizations also provide conservation awareness programs in schools or camps and mandatory Firearm Safety/Hunter education.

In addition to extensive educational programming, laws and regulations must be enforced. Conservation officers check for compliance with hunting legislation between 12,000 and 15,000 times each year. They also complete other activities, such as undercover investigations, to safeguard our resources from a range of infractions. As well, informed hunters

can be involved in reporting any non-compliant behaviour they observe. Compliance rates exceed 85 per cent and only three per cent of encounters result in charges being laid. This low infraction rate indicates that the hunting community accepts the current wildlife laws. Despite this, serious poaching or illegal harvest, and trafficking of wildlife parts, still occurs. These clandestine activities are seasonal in nature, often carried out at night by people involved in other criminal activities, and can have the greatest adverse impact on wildlife populations. Covert, specialized operations are an effective way to deal with these kinds of infractions.

One unique component of wildlife law enforcement is that many infractions carry a loss of hunting rights as part of the penalty. This loss of hunting rights is often viewed as a greater penalty than fines and acts as a significant deterrent. In 2014, the ministry doubled the fines for more serious offences such as unlawful hunting, possession and exceeding limits. These changes resulted in Saskatchewan hunting-related penalties being in line or greater than other Canadian jurisdictions.



Public Involvement in Game and Habitat Management



Thirty per cent of revenue from all trapping and hunting licences purchased is used to secure and manage wildlife habitat and to support initiatives that promote and protect the wildlife resource. Examples of initiatives that are funded by the Fish and Wildlife Development Fund (FWDF) include acquisition of important wildlife habitat, humane trapping and firearm safety education, support for academic research on wildlife and for conservation initiatives that encourage ecologically progressive land stewardship practices.

To manage game effectively, engagement and communication efforts must result in a well-informed public that understands management objectives, policies and programs. In turn, wildlife managers must be informed and be respectful of public needs and values. The ministry must increasingly augment its expertise and efforts through additional partnerships, while maintaining and growing its existing partnerships to meet the current and emerging challenges of game management.

The responsibilities of individual partners are defined by the strengths and mandates of each agency/organization and include participation in wildlife research, habitat conservation program development and delivery, and co-ordination of directed communication efforts to the public. The broad scope of the ministry's partnerships includes conservation non-government organizations, hunter associations, industry, agricultural producers and landowners, watershed stewardship groups, academia, as well as governments at municipal, provincial/state and federal levels.

Conservation Partnerships

Strategic partnerships and funding arrangements with organizations such as Ducks Unlimited Canada, Prairie Habitat Joint Venture, Nature Conservancy of Canada, Nature Saskatchewan and Saskatchewan Wildlife Federation, have enabled considerable habitat conservation actions to be undertaken in Saskatchewan.

Two examples of long-standing conservation partnerships include the Fish and Wildlife Development Fund (FWDF) and the North American Waterfowl Management Plan (NAWMP). The Wildlife Development Fund was created in 1970 when hunters and trappers agreed to pay more for hunting licences provided the extra money was put into a special conservation fund to maintain habitat and game populations. The signing of a Land Trust Agreement between the ministry, Ducks Unlimited Canada, Saskatchewan Wildlife Federation and the Nature Conservancy of Canada in

2015, formalized the co-ordination and funding of land management activities on all of the ministry's non-partnered FWDF lands. NAWMP is an international partnership between the Canadian, Mexican and United States governments to conserve healthy and resilient waterfowl populations and sustainable landscapes through management decisions based on strong biological foundations. These partnerships have contributed substantially to terrestrial and wetland habitat conservation in Saskatchewan over the past three decades.

In addition, the ministry collaborates with other provincial ministries and agencies including the Ministry of Parks, Culture and Sport, to align efforts to conserve and manage protected areas and game species habitat. Engagement with the Ministry of Agriculture enables the ministries to encourage stewardship on private land and sustain provision of joint habitat benefits from agricultural Crown lands; regulate fur farm and game farm animals; and, along with the Ministry of Health, provide a collective approach to health issues that affect domestic animals, wildlife and humans. Co-operation with the Water Security Agency (WSA) promotes development of programs and regulations that balance and integrate water management, conservation of wetland and riparian habitat and responsible agricultural development. For instance, wetland and drainage inventory information has been collected through a partnership of WSA, ECCC, DUC, and the ministry for approximately 30 per cent of southern Saskatchewan. This work provides key information for monitoring, modeling and assessing habitat trends.

Advisory Committees

The ministry facilitates and participates in long-standing, diverse advisory groups that advance conservation through thoughtful review and analysis of current and emerging challenges. Several key advisory committees include the Wildlife Advisory Committee, the Fish and Wildlife Development Fund Advisory Council, and the Beverly and Qamanirjuaq Caribou Management Board (BQCMB).

Wildlife Advisory Committee

The Wildlife Advisory Committee (WAC) is a long-standing partnered wildlife committee representing the major wildlife conservation and landowner stakeholders in the province as well as the Federation of Sovereign Indigenous Nations and Métis Nation–Saskatchewan. The committee makes recommendations to the ministry on matters pertaining to conservation and allocation of the province's wildlife resources including guidance regarding season setting, wildlife policy and regulatory changes.

Fish and Wildlife Development Fund Advisory Council

The FWDF Advisory Council was established in 1993 and has the mandate as described in *The Natural Resources Act*, to advise the Minister on all aspects of program budget, funding allocations and policy direction pertaining to the Fish and Wildlife Development Fund.

Beverly and Qamanirjuaq Caribou Management Board

The Beverly and Qamanirjuaq Caribou Management Board is an inter-jurisdictional advisory board established in 1982 consisting of five government and eight user members representing the northern jurisdictions and communities of the traditional range of the Beverly and Qamanirjuaq caribou herds. The BQCMB functions to co-ordinate joint management of the migratory

barren-ground caribou whose winter range includes northern Saskatchewan.

Citizen Science Surveys

Citizen science involves engaging volunteers in data collection and is increasingly becoming an important source of information to support wildlife research and monitoring. By engaging many people across broad areas, citizen participation has the potential to support a landscape approach to wildlife management and planning by contributing wildlife observations over large geographic regions, and on land that may otherwise be hard to access (e.g., private lands). Citizen science tools such as the Co-operative Wildlife Management Survey and Weather Watcher program can also encourage better public awareness and engagement in wildlife management, both of which are essential to fostering a shared responsibility for sustaining wildlife and conserving habitat.

Direct Involvement with Hunters

Saskatchewan's Hunter Harvest Survey engages thousands of hunters annually in reporting their hunting and harvest efforts. The resulting data are used by wildlife biologists to evaluate recent changes in management strategies on game populations and identify areas where different management strategies may be warranted. Annual hunter harvest surveys have been a key tool in Saskatchewan's

wildlife management for more than 50 years, and recently this survey transitioned into the online HAL system. In 2015, approximately 105,000 surveys were made available to approximately 63,700 hunters. More than 21,000 surveys were completed, with response rates ranging from 21 per cent for Canadian resident black bear hunters to 58 per cent for pronghorn hunters. The ministry continues to look for additional ways to engage hunters to improve response rates. More completed surveys result in more thorough evaluation of management strategies.

In addition, HAL offers exciting new potential for timely communication directly with hunters with a valid email address. Examples of this capacity include notifications of new opportunities such as big game management licences, special licence packages, changes to programming, reminders and targeted surveys for particular WMZs.

Wildlife Advisory Committee Membership

Métis Nation–Saskatchewan
Nature Saskatchewan
Regina Fish and Game League
Saskatchewan Association of Rural Municipalities
Saskatchewan Black Powder Association
Saskatchewan Bowhunters Association

Saskatchewan Commission of Professional Outfitters
Saskatchewan Federation of Sovereign Indigenous Nations
Saskatchewan Stock Growers Association
Saskatchewan Trappers Association
South Saskatchewan Wildlife Association
Saskatchewan Wildlife Federation
Tourism Saskatchewan

Fish and Wildlife Development Fund Advisory Council Membership

Nature Saskatchewan
Saskatchewan Bowhunters Association
Saskatchewan Commission of Professional Outfitters
Saskatchewan Flyfishers Federation
Saskatchewan Trappers Association
Saskatchewan Wildlife Federation

Climate Change

The future impact of climate change is unknown, and while difficult to predict, many experts are suggesting that Saskatchewan will see increased frequency of extreme weather events, including drought and flooding. Such conditions will require flexible approaches in virtually all resource management decision-making processes. In northern climates such as Saskatchewan, warming has the potential to affect game species by shifting ranges, altering the timing of seasonal events, species distributions, migration patterns and even interspecies relationships. These climatic shifts will create one of the greatest challenges for habitat, biodiversity and species management. Therefore, management will need to be increasingly nimble to respond and be resilient to occurrences such as extraordinary weather events. As with past climatic shifts, some species will adapt and thrive as their climate regime changes, while other species will decline.

Wildlife managers must rely on emerging data and modelling as climate change becomes better understood. It will be important to be

able to predict the effects of a changing climate to develop timely responses that allow species to adapt, or to implement strategies to decrease adverse effects on wildlife.

As the rate of human activity increases in Saskatchewan, wildlife managers will have to ensure that game and biodiversity needs are considered in environmental mitigation and/or monitoring requirements if ecosystem services are to remain sustainable. Conserving biodiversity through integrated land use planning or sustainable forestry practices are management strategies that will help mitigate potential effects. Intact and connected tracts of land can support healthy wildlife populations which will have the genetic diversity needed to better adapt to changing conditions. These lands can also be critical for species mobility in the face of climate change.

Game Management Plan Outcomes

Outcome 1	Outcome 2	Outcome 3
Sustainable management for the conservation of game species and their habitat	Equitable allocation of game species to optimize social, cultural and economic benefits	Shared responsibility and public engagement in wildlife management

Game species management is complex. The *GMP Core Document* has been organized to outline the three broad outcomes through to the tangible actions needed to meet the desired outcomes. The timeline identifies the expected completion of each action.

Outcome 1

Sustainable management for the conservation of game species and their habitat

Goal 1.1

Identify and maintain habitat to support wildlife populations.

Timeline | Challenge

Important habitat is being lost and becoming more fragmented.

Management Objectives | Management Actions

Improve understanding of game species habitat use and distribution.

- ongoing Work with the ministry's Forest Service Branch to create inventories on amount of logging, intact habitat remaining, age of stands and linear disturbances.
- 1–4 years Expand expertise in land cover assessment to inform and implement comprehensive habitat conservation strategies.
- 1–4 years Create an inventory of important habitat for each game species.
- long-term Partner with conservation agencies, agricultural groups, other provincial ministries and agencies and the federal government to establish a monitoring program to maintain ecological integrity on lands within the Representative Areas Network.
- long-term Create vegetation maps for southern Saskatchewan that inform management of game species.
- long-term Develop an improved understanding of the impacts of changing agriculture crop rotation on wildlife populations.

Maintain and connect remaining natural habitats and corridors of wildlife species on Crown and private land.

- ongoing Develop policy and influence programs to promote conservation of high-quality wildlife habitat on Crown and private lands in the province.
- ongoing Maintain integrity of natural features, ecosystems and shorelines at the watershed level.
- ongoing Ensure forests are harvested in a way that approximates natural disturbance patterns to create habitat conditions required by wildlife species.
- ongoing Partner with conservation agencies such as SWF, DUC and NCC to secure and manage important habitat through FWDF Trust Agreement.
- 1–4 years Develop and maintain an inventory of all conservation lands in Saskatchewan to inform future habitat conservation initiatives.
- 1–4 years Engage managers of blocks of grassland to understand what they believe to be critical to maintaining grassland habitats.

Monitor and address cumulative changes on the landscape.

- 1–4 years Partner with Ministry of Agriculture and Water Security Agency to develop best management practices that support stewardship of privately-owned wetlands, woodlands and grasslands.
- long-term Partner with ministries and NGOs to assess cumulative effects and apply that data to prevent high-risk activities in important habitat and identify areas with high levels of disturbance that need restoration.
- long-term Develop access management plans to address impacts from road/trail development in the Provincial Forest.

Timeline | Challenge

Increasing development exists near or on important habitat.

Management Objectives | Management Actions**Implement mitigation principles in priority order to 1) avoid, 2) minimize, and 3) offset development effects on important habitat for game species and other fish and wildlife.**

- 1–4 years Identify leading indicators of landscape health that can inform development decisions and reclamation priorities.
- 1–4 years Develop and implement policies to avoid, minimize or offset development impacts on or near important habitats.
- 1–4 years Improve information and standards that can inform project developers how to reduce the impact of development on wildlife.

Goal 1.2

Maintain sustainable game species populations.

Timeline | Challenge

Designing adaptive management strategies that are responsive to change in both the physical and social environment.

Management Objectives | Management Actions**Develop effective policies to support the ecological needs of species in light of changing physical and social environments.**

- ongoing Integrate game management objectives into the forest management planning process.
- 1–4 years Develop management plans for each game species with practical thresholds to guide management and allocation decisions.
- 1–4 years Undertake a comprehensive valuation of Saskatchewan game species to determine full economic and environmental benefits which will help inform game management policies.

Increase collaboration with other jurisdictions to facilitate cohesive management across borders.

- 1–4 years Build on current inter-jurisdictional partnerships and identify priority areas and species to utilize a collaborative wildlife management approach between jurisdictions.

Timeline | Challenge

Addressing disease, parasites and environmental contaminants that can have significant effects on the survival and reproductive capacity of wildlife populations.

Management Objectives | Management Actions

Reframe management of wildlife disease and environmental contaminants within the context of managing for wildlife population health.

- ongoing Engage the public to improve awareness and support for education/communication on priority wildlife health issues.
- 1–4 years Develop a One Health strategy to co-ordinate government's response to health issues that affect domestic animals, wildlife and humans.
- 1–4 years Design an effective policy and regulatory framework that minimizes introduction and transmission of disease to and through wildlife.
- long-term Partner to fund surveillance and monitoring approaches that provide timely reporting of new or emerging disease risks in the province.
- long-term Identify current and emerging pesticide issues and where appropriate develop actions to mitigate effects on wildlife.

Timeline | Challenge

Addressing invasive and non-native species that can directly and indirectly impact the survival of native wildlife species.

Management Objectives | Management Actions

Limit the impact of invasive and non-native species on native wildlife.

- ongoing Enhance public awareness and support for management actions through education and communication on invasive and non-native species issues.
- 1–4 years Develop an early detection and rapid response plan to prevent new or emerging invasive and non-native species and techniques to manage those that exist.
- 1–4 years Strengthen provincial legislation and policies to prevent the introduction and control the spread of harmful invasive species.

Goal 1.3

Develop an information management framework that supports decisions based on science and local knowledge.

Timeline | Challenge

Collecting accurate, up-to-date information related to wildlife populations in a cost-effective way.

Management Objectives | Management Actions

Utilize the best-available data to inform management decisions.

- 1–4 years Review current data collection and analysis methodologies to identify information gaps related to new management thresholds.
- 1–4 years Develop a comprehensive wildlife inventory program with new or improved survey methodologies, protocols and wildlife population modeling tools.
- 1–4 years Develop survey protocols for industry that inform the environmental assessment process and provide data that can be used to inform management decisions.
- long-term Develop an easy-to-access, centralized database to house all game species data.

Seek partnerships, external funding and link to science networks to strengthen management capacity.

- ongoing Enable partnerships with university, other non-government researchers and conservation organizations to guide research that meets game management objectives.

Engage the public in wildlife data collection.

- ongoing Engage First Nations and Métis on wildlife population monitoring and annual harvest.
- 1–4 years Design and promote cost-effective wildlife data collection programs that use citizen science surveys to engage the public as volunteers.

Timeline | Challenge

Climate trends and extreme weather alter wildlife survival, productivity and habitat availability.

Management Objectives | Management Actions

Better understand the vulnerability of Saskatchewan's game species to long-term changes in climate and weather trends.

- long-term Identify appropriate climate models that generate reliable predictions of the vulnerability of individual species and their habitat to inform natural resource planning and policies.

Outcome 2

Equitable allocation of game species to optimize social, cultural and economic benefits

Goal 2.1

Manage wildlife harvest to provide a diversity of hunting opportunities that can be managed and maintained for future generations.

Timeline | Challenge

Defining level of sustainable harvest that meets multiple interests, changing human values and changing environmental conditions.

Management Objectives | Management Actions

Annually allocate harvest opportunities for game species using the information available for each species.

- 1–4 years Maintain a transparent process that allocates hunting opportunities according to the *Game Allocation Framework*.
- 1–4 years Develop a process to allocate available outfitting opportunities.
- 1–4 years Evaluate the outfitter game allocation process which allows for adjustments when population changes warrant.
- long-term Review the *Game Allocation Framework* with the Wildlife Advisory Committee every five years.
- long-term Identify processes that provide a better understanding of public preference for wildlife population abundance.

Timeline | Challenge

Developing timely policy and regulations.

Management Objectives | Management Actions

Ensure regulatory and policy framework remains current, simple yet effective and encourages compliance.

- ongoing Develop, review and update all wildlife policies to inform effective program delivery.
- ongoing Maintain a special investigations unit to deter the most serious resource impacting offences.
- 1–4 years Establish a more efficient two-year regulatory cycle that allows for annual adjustments when environmental factors deem it appropriate.
- 1–4 years Review and update *The Wildlife Act, 1998* to ensure appropriate authority exists to address wildlife conservation and management priorities.

Timeline | Challenge

Providing a licensing system with equitable opportunity, efficient customer service and real-time data.

Management Objectives | Management Actions

Use and further develop the automated licence system as a game species management tool.

- ongoing Incorporate additional licences/permits into HAL.
- 1–4 years Work with Aspira to improve reporting of HAL licence data in order to inform management decisions.
- 1–4 years Conduct the big game draw annually and review every five years.
- longterm Review hunting licence fees to ensure they are competitive and recommend changes as required.

Goal 2.2

Maintain hunting opportunities and public access to wildlife.

Timeline | Challenge

Competing interests on Crown and private land.

Management Objectives | Management Actions

Maintain hunter access to Crown land.

- ongoing Collaborate with ministries and agencies to ensure continued access for hunting opportunities on Crown land, while respecting economic interests.
- ongoing Promote good relationships with private landowners.
- ongoing Promote hunter ethics and landowner respect in the *Saskatchewan Hunters' and Trappers' Guide* and *Saskatchewan Guide for Treaty and Aboriginal Rights for Hunting and Fishing*.
- ongoing Support educational programming that highlights the important role that hunters play in conservation.
- ongoing Promote ethical use of vehicles and all-terrain vehicles.
- 1–4 years Develop a process to determine the interests of hunters, agriculture producers and landowners regarding access of private land for hunting.
- 1–4 years Emphasize hunter ethics and landowner respect in the Firearm Safety and Hunter Education program.

Outcome 3

Shared responsibility and public engagement in wildlife management

Goal 3.1

Improve public awareness.

Timeline | Challenge

Fostering a conservation ethic that is shared between government, hunters, land stewards and the public.

Management Objectives | Management Actions

Communicate Saskatchewan's approach to wildlife management by sharing information on wildlife populations and management strategies with members of the public.

- ongoing Publish the *Saskatchewan Hunters' and Trappers' Guide* and *Saskatchewan Guide for Treaty and Aboriginal Rights for Hunting and Fishing*.
- ongoing Publish the *Saskatchewan Wildlife Management Report* annually to inform hunters and the general public on current management strategies.
- ongoing Increase functionality of HABISask and other applications to assist clients when making land-use or hunting decisions.
- ongoing Ensure important messages are distributed in a timely manner using the most appropriate communication type to improve customer service.
- 1–4 years Publish the *Game Allocation Framework* and species management plans which detail overarching management policy for Saskatchewan.

Promote collaboration among ministries, agencies, stakeholders, First Nations and Métis organizations vested in wildlife management.

- ongoing Engage Wildlife Advisory Committee to provide advice on policy and regulatory matters so that the perspectives and issues of key interest groups are included in decision-making.
- ongoing Build partnerships with other government agencies and non-government organizations to promote or supplement their environmental/land stewardship programs.

Promote personal stewardship of wildlife habitat on private land.

- ongoing Recognize land managers currently using best management practices.
- 1–4 years Provide conservation and restoration best management practices and guidelines developed by other agencies, to land managers interested in providing habitat for wildlife.
- 1–4 years Provide information regarding landowners' beneficial role in wildlife and habitat conservation.

Reduce risk to public safety, property and wildlife.

- ongoing In collaboration with Saskatchewan Crop Insurance Corporation (SCIC), continue to provide depredation supplies, fencing and scare cannons for ministry field offices to distribute to landowners to reduce wildlife depredation.
- ongoing Collaborate with SCIC to develop incentives for agricultural producers who implement measures that reduce claims.
- 1–4 years Work with Saskatchewan Government Insurance (SGI) to obtain data that can inform actions to reduce wildlife-vehicle collisions.

Timeline | Challenge

Ensuring the sport of hunting retains current hunters and attracts new hunters.

Management Objectives | Management Actions**Support partnership programs to promote conservation and hunting.**

- ongoing Maintain annual funding to Saskatchewan Association for Firearms Education (SAFE).
- ongoing Partner with groups to provide conservation and education programming to new and current hunters to promote hunting.
- ongoing Maintain support for the Turn in Poachers Program.

Identify incentives to recruit new hunters and to retain active hunters.

- 1–4 years Use human dimension surveys and workshops to confirm effectiveness of existing initiatives and to identify new incentives to retain and recruit hunters.

Plan Implementation, Review and Evaluation

The commitments in this document provide a coherent plan for safeguarding the long-term future of our provincial game species and their habitats.

This plan is treated as a 'living framework' with ongoing processes for reviewing, evaluating and amending the plan as needed. Regular review of the progress in implementing the plan and its impact to game species and their habitat will result in ongoing examination and improvement to policies, procedures and legislation.

The Wildlife Advisory Committee will play an important role in plan implementation, review and evaluation through the provision of advice to the ministry, communications to the broader public and ensuring accountability for plan implementation.

Timeline | **Management Objectives** | Management Actions

Review regularly, implementation and progress reporting

- ongoing Ensure actions are identified through annual work planning processes.
- ongoing Assess and evaluate plan effectiveness every five years.

Glossary and Acronyms

Aspira (formerly Active Network): The company the ministry partnered with in May 2012 to implement an automated hunting, angling and trapping licensing system.

Adverse effects: An effect that impairs or damages the environment, including the health of wildlife, humans or the reasonable enjoyment of life or property.

Allocation: Distribution of the opportunity to use wildlife resources.

Biodiversity (biological diversity): Includes all species of plants, animals and microorganisms and the ecosystems and ecological processes of which they are part.

Big game species: White-tailed deer, mule deer, moose, elk, barren-ground and woodland caribou, black bear and pronghorn.

Best management practices: Any management practice which ensures the long-term health and sustainability of land and aquatic resources; positively impacts the long-term viability of agricultural production; and minimizes negative impacts and risk to the environment.

Citizen science: Refers to research collaboration that engages volunteers in research activities and expands opportunities for scientific data collection to answer real-world questions.

Conservation: Wise use of our resources; planned use and management of a natural resource to prevent depletion or exploitation.

Crown land: Land owned by the provincial government.

Ecosystem: An interdependent system consisting of all the living organisms in a given area, all the physical and chemical factors of their environment and the processes that link them.

Ecological integrity: A condition where the function and structure (including genetic, species and ecosystem diversity) of an ecosystem are not impaired by human-induced stresses.

Fish and Wildlife Development Fund (FWDF) Lands or Wildlife Lands: Lands purchased for conservation purposes using funds derived from a portion of all Saskatchewan hunting and trapping licences.

Firearm: Firearms that are a legal means to hunt game species include archery, crossbow, muzzleloader, rifle, and shotgun.

Game species: Species of animal that can be legally hunted for sport or food through the issuance of a licence.

HABISask (Hunting, Angling and Biodiversity Information of Saskatchewan): A web mapping application that is intended to provide information for: hunters and anglers planning recreational outings; industry and consultants in early planning stages of development projects, conservation opportunities and environmental review; and for those who wish to enjoy wildlife viewing opportunities.

Habitat: Wildlife habitat includes the food, water, shelter, space and access to breeding partners to sustain a species population.

Habitat mitigation: A process for managing development impacts

through the application of a step-wise progression of actions to avoid, minimize and offset adverse effects, followed by monitoring to ensure goals are met over time.

Harvest: Captured and removed from the wild for subsistence, recreational or commercial purposes.

Healthy: Disease free individuals and/or robust/well-structured/self-sustaining populations.

Human dimension: How people's knowledge, values, and behaviours influence and are affected by decisions about the conservation of wildlife and management of natural resources.

Hunting: Includes taking, wounding, killing, chasing, pursuing, worrying, capturing, following after or on the trail of, searching for, shooting at, trapping, setting snares for, stalking or lying in wait for any wildlife, whether or not the wildlife is subsequently captured, wounded or killed.

Hunting opportunity: Refers to the period of time a hunter has to harvest a particular species; also known as 'days in the field'.

Invasive species: Species that are non-native or alien to the ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Linear disturbances: Human-caused disturbance features that include roads, trails, power lines, seismic lines and railways.

Local knowledge: Refers to the historical and practical knowledge of the land and related natural resources accumulated by those who live close to the land.

Migratory game bird: Includes any game bird protected by the Migratory Birds Convention Act (Canada), as amended from time to time, or the regulations made under that Act. (In Saskatchewan these species include: ducks, geese, sandhill cranes, snipe and coots.)

Natural disturbance patterns: The range, frequency and intensity of natural disturbances in an ecosystem and landscape context.

One Health: An inter-ministry collaboration between the Ministries of Agriculture, Health and Environment to develop efficient and effective provincial responses to domestic animal, human and wildlife health issues in Saskatchewan.

Outfitting: Providing or organizing any combination of equipment, accommodation and guiding services, for clients, in connection with hunting.

Population: Total number of individuals of the same species that interbreed and live in the same place at the same time.

Provincial (Commercial) Forest: The commercial forest zone makes up 11.7 million hectares, of which 5.3 million hectares are classified as productive forest land available for commercial timber harvesting in northern Saskatchewan.

Representative Areas Network: Conserves representative and unique landscapes in each of Saskatchewan's 11 ecoregions.

Scale: The spatial measure of an object or a process, or its amount of spatial resolution (e.g., an elk population may be considered at the regional, ecozone or landscape scale).

Stewardship: The individual and corporate responsibility of one generation to maintain the natural inheritance that it has received, both for its benefit and for the benefit of future generations.

Sustainable harvest: Level of harvest within an ecosystem's natural ability to recover and regenerate and maintain ecosystem services at the same or increasing level over time.

Terrestrial: Pertaining to or living on the land.

Upland game birds: Refers to sharp-tailed grouse, ruffed grouse, spruce grouse, ring-necked pheasant, gray partridge, willow and rock ptarmigan.

Waterfowl: Refers to ducks, geese, sandhill cranes, coots and snipe.

Watershed: A discrete geographic area within which all water would drain to a single outlet.

Wetland: An area of low-lying land, permanently submerged or inundated periodically by water.

Wildlife: A vertebrate animal of any species, excluding fish, that is wild by nature in Saskatchewan and include:

- (a) Any part, tissue, genetic material, eggs, sperm, embryos or other forms of developmental life; and
- (b) Any exotic wildlife found in Saskatchewan.

Wildlife management zones: Zones that are used to manage wildlife that group similar ecological features and follow definitive geographic boundaries.

Acronyms

BQCMB	Beverly Quamanirjuaq Caribou Management Board
DUC	Ducks Unlimited Canada
EFP	Environmental Farm Plan
FSIN	Federation of Sovereign Indigenous Nations
FWDF	Fish and Wildlife Development Fund
GMP	Game Management Plan
HAL	Hunting, Angling and Trapping Licence system
NAWMP	North American Waterfowl Management Plan
NCC	Nature Conservancy of Canada
NGO	Non-Government Organization
SAFE	Saskatchewan Association of Firearm Education
SCIC	Saskatchewan Crop Insurance Corporation
SGI	Saskatchewan Government Insurance
SWF	Saskatchewan Wildlife Federation
WAC	Wildlife Advisory Committee
WSA	Water Security Agency
WMZ	Wildlife Management Zone

Bibliography

- Bonney, R., Cooper, C.B., Dickinson, J., Kelling, S., Phillips, T., Rosenberg, K.V., and Shirk, J., 2009. Citizen science: A developing tool for expanding science knowledge and scientific literacy. *Bioscience*, 59: 977-984.
- Cohn, J.P. 2008. Citizen science: Can volunteers do real research? *BioScience*, 58(3), 192-197.
- Environment Canada. 2004. An Invasive Alien Species Strategy for Canada. http://publications.gc.ca/collection/s/collection_2014/ec/CW66-394-2004-eng.pdf
- Gebreyes, W.A., Dupouy-Camet, J., Newport, M. J., Oliveira, C.J.B., Schlesinger, L. S., Saif, Y. M., King, L. J. (2014). The Global One Health Paradigm: Challenges and Opportunities for Tackling Infectious Diseases at the Human, Animal, and Environment Interface in Low-Resource Settings. *PLoS Neglected Tropical Diseases*, 8(11), e3257. <http://doi.org/10.1371/journal.pntd.0003257>
- House of Commons, Standing Committee on Environment and Sustainable Development [ENVI]. 2015. Licensed Hunting and Trapping in Canada. 2nd Session, 41st Parliament, June, 2015.
- Javorek, S.K. and Grant, M.C. 2011. Trends in wildlife habitat capacity on agricultural land in Canada, 1986-2006. *Canadian Biodiversity: Ecosystem Status and Trends 2010*, Technical Thematic Report No. 14. Canadian Councils of Resource Ministers. Ottawa, ON. vi + 46 pp.
- Jeswiet, S. and L. Hermsen. 2015. Agriculture and wildlife: A two-way relationship. *EnviroStats* (9): 2. Statistics Canada, Ottawa Ontario. 11 pp.
- Larson, L.R., Stedman, R.C., Decker, D.J., Siemer, W.F., and Baumer, M.S. 2014. Exploring the social habitat for hunting: Toward a comprehensive framework for understanding hunter recruitment and retention. *Human Dimensions of Wildlife*, 19(2): 105-122.
- Lee, P., J.D. Gysbers and Z. Stanojevic. 2006. Canada's Forest Landscape Fragments: A First Approximation (A Global Forest Watch Canada Report). Edmonton, Alberta: Global Forest Watch Canada. 97 pp.
- Lindenmayer, David B.; Fischer, Joern. 2013. Habitat Fragmentation and Landscape Change: An Ecological and Conservation Synthesis. Island Press. pp. 1-10.
- Naiman, R.J. and H. Decamps. 1997. The ecology of interfaces: riparian zones. *Annual Review of Ecology and Systematics*. 28: 621-658.
- Prairie Habitat Joint Venture. 2015. Prairie Habitat Joint Venture Implementation Plan: The Prairie Parklands Region. Report of the Prairie Habitat Joint Venture. Environment Canada, Edmonton AB.
- Saskatchewan Ministry of Environment. 2016. Saskatchewan Wildlife Management Report 2016. 108 pp.
- Saskatchewan Environment. 2006. Final Report Economic Evaluation of Hunting in Saskatchewan. D. Murray Consulting Associates, Regina.
- Saskatchewan Ministry of Environment. 2010. Fisheries Management Plan. 21 pp.
- Saskatchewan Wildlife Federation. 2015. Towards a New Game Management Plan for Saskatchewan. 27 pp.
- Shirk, J.L., Ballard, H.L., Wilderman, C.C., Phillips, T., Wiggins, A., Jordan, R., McCallie, E., Minarcchek, M., Lewenstein, B.V., Krasny, M.E., and Bonney, R. 2012. Public participation in scientific research: a framework for deliberate design. *Ecol. Soc.* 17 (2), 5-29.
- Simberloff, D., Martin, J-L, Genovesi, P. et al. 2013. Impacts of biological invasions: What's what and the way forward. *Trends in Ecology and Evolution* 28: 58-66.

