
Management Plan for Wild Turkeys in Alberta



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1.0 Introduction

1.1 Plan Purpose

When Europeans arrived in eastern North America, wild turkey were present in what are now 39 continental states, as well as Ontario. Although not endemic to Alberta, wild turkey (*Meleagris gallopavo*) are the largest upland game bird in the province. Wild turkey are noted for their elusiveness as a game species and are prized as a table delicacy.

Alberta's history with wild turkeys has been relatively recent with the first introduction of wild turkeys obtained from South Dakota being released into the Cypress Hills in 1962 (Rippin and Wishart 2005). There are currently two sustainable breeding populations in Alberta, one in the Cypress Hills of southeastern Alberta, and the other in southwest Alberta in the area of the Crowsnest Pass. These populations were established with the intent to provide a unique and desirable hunting opportunity to resident hunters.

In addition to providing an overview of relevant information about wild turkey in Alberta and management perspectives, this plan presents Alberta Environment and Parks' goals, objectives, and actions for the management and conservation of wild turkey in Alberta.

1.2 Guiding Principles, Policies and Responsibilities

Wildlife resources in Alberta are administered according to policies outlined in The Fish and Wildlife Policy for Alberta (Alberta Energy and Natural Resources, Fish and Wildlife Division 1982) and under the authority of the Alberta *Wildlife Act* and Alberta Wildlife Regulation 143/97. Alberta's *Hunting, Fishing and Trapping Heritage Act* (2008) recognizes the right of Albertan's to hunt in accordance with applicable laws. General direction for establishing goals, objectives and actions for wildlife management in Alberta is supported through:

- policy and legislation supporting protection of viable wildlife populations,
- stakeholder desire for a variety of wildlife recreational opportunities, including hunting and,
- a commitment to support management of wildlife in such a way that different social values are balanced.

As policy and legislation are developed and updated, wild turkey management approaches and goals will be adjusted to maintain alignment.

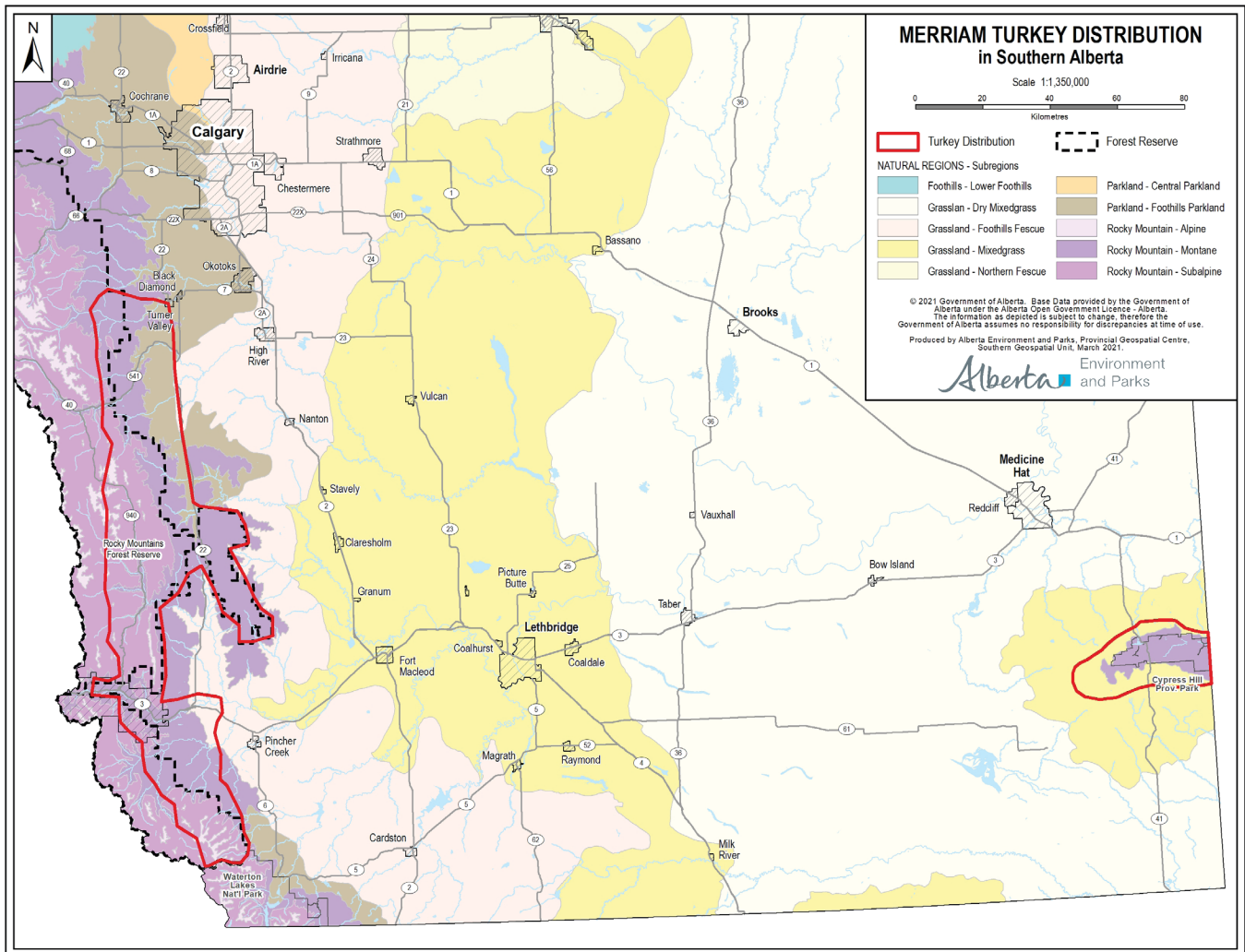


2.0 Background and Current Status

2.1 Historical Population Status and Trends

Over-hunting and habitat destruction eliminated wild turkeys from much of their original North American range by the early 1900s. However, substantial habitat restoration and concerted reintroduction efforts since then have been successful, with wild turkeys now re-occupying their original range and establishing populations in habitats in new jurisdictions as well. (Vuilleumier 2009). Wild turkey now exhibit a widespread but patchy distribution across North America, including all 48 US states, British Columbia, Alberta, Saskatchewan, Manitoba and Ontario. Within Alberta, wild turkeys occupy habitat in and around the Cypress Hills, the Porcupine Hills and the area around Lees Lake (Figure 1).

FIGURE 1. Wild turkey distribution in southern Alberta 2020.



In a 'bighorn sheep for wild turkey' trade with South Dakota in 1962 (Armstrong, 1969, Masuda 1974a), Alberta obtained 24 turkeys. Twenty-one of these turkeys were released in the Cypress Hills in an effort to establish a self-sustaining wild population. The three remaining turkeys went to the Brooks Pheasant Hatchery to establish a provincial breeding flock used to support further population introduction efforts in the province. The release in the Cypress Hills was immediately successful, with seven broods observed in the summer of 1963 and an increase in the wild turkey population in both Alberta's and Saskatchewan's portions of the Cypress Hills was reported (Armstrong 1969). By the summer of 1965, the Cypress Hills turkey population was estimated to be 200 birds (Masuda 1974a).

In January 1967, 12 turkeys from Cypress Hills (36-8-2-W4M) were captured and relocated to the Porcupine Hills (14-12-1-W5M). In March 1967, another four turkeys from the Cypress Hills birds were captured and relocated to the Porcupine Hills (24-11-3-W4M) (Armstrong 1969). However, severe winter weather conditions in 1967-68 had significant impacts on both populations (Armstrong 1969, Masuda 1974a). Based on a lack of wild turkey sightings following the winter of 1967-68, none of the turkeys released in the Porcupine Hills are believed to have survived (Masuda 1974b). The severe winter weather conditions also reduced the Cypress Hills population to less than 50 birds.

In March 1973, a second introduction into the Porcupine Hills was initiated. Eighty-eight birds were released, including 13 wild birds from Nebraska and 75 turkeys raised at the Brooks Hatchery. Three broods were observed during August of 1973 (1, 5 and 7 poults) with the largest brood from a female from Nebraska (Barrett 1973, Masuda 1974b). Since the 1970s, both the Cypress Hills and the Porcupine Hills continue to support sustainable populations of wild turkey.

Alberta's first wild turkey season opened in the Porcupine Hills in the spring of 1991. Hunters responded very positively to the new opportunity to harvest a wild turkey, with 1156 people applying for the 50 permits available for the Forest Reserve portion of Wildlife Management Unit 305. Twenty-two bearded turkeys were harvested during the first season. This season continues today in an expanded area in southwestern Alberta including Wildlife Management Units 300, 302, 303, 304, 305, 306, 308, 400, and 402.

Over the years, additional transplants of turkeys were initiated across Alberta. In November 1970, Stettler Fish and Game Association released 15 turkeys along the Battle River, followed by another 32 in September 1972. Thirteen turkeys were released in Big Knife Provincial Park in the spring of 1972. In September 1971, Foremost Fish and Game Association released 30 turkeys along the Milk River and in Writing-On-Stone Provincial Park. Fort McLeod Fish and Game Association released 55 turkeys along the Belly River through the months of May and June 1972. A private

individual released 92 birds along the Oldman River in September 1972. None of the transplants was successful in establishing breeding populations (Masuda 1974a). Various legal and illegal releases of turkeys have occurred at numerous places in Alberta since the mid-1970s, with no successful breeding populations being established. It is unknown how much of these were translocation of wild birds, and how much was captive raised transplanted birds. Survival and recruitment of captive raised birds has been shown to be very low with little to no recruitment.

In 1988, Fish and Wildlife Division and the Alberta Fish and Game Association (AFGA) trapped 47 turkeys in the Porcupine Hills. Thirty-two of these were released in Todd Creek area and 15 were released in Lee Lake Area. Turkeys released in the Todd Creek area soon dispersed and were observed sporadically. The lack of farmland and associated wintering areas in the Todd Creek area may be a limiting factor for wild turkey in this area. The release in the Lee Lake area appeared to be successful and rapidly grew to about 175 birds. It is suggested that presence of farms in Lee Lake area may have assisted survival of released birds due to supplemental feeding (L Dube, Environment and Parks, personal communications).

There are currently two sustainable breeding populations in Alberta, one in the Cypress Hills of southeastern Alberta, and the other in the Porcupine Hills-Todd Creek -Lee Lake area of southwestern Alberta. The Cypress Hills turkey population continues to survive at low numbers, with the most current estimate being about 50 birds (J Nicholson, Fish and Wildlife Stewardship, personal communications). The populations in southwest Alberta continue to expand their range, with birds down south near Waterton Lakes National Park and as far north as Turner Valley. Based on a survey of leaseholders completed in 2018, the southwest turkey population was estimated to be 500 birds in the Porcupine Hills and north, and another 500 birds in the Todd Creek-Lee Lake area (M Didkowsky, Fish and Wildlife Stewardship, personal communications).

Of all the upland game birds in Alberta, the wild turkey is perhaps the only one that has potential for causing significant property losses and damages. When local flock numbers become high, turkeys have the potential to create wildlife conflict situations with agricultural producers. During winter, turkeys often feed with cattle on farms and ranches. Turkeys can consume stored livestock feed as well as damage feed storage devices. Turkeys also tend to roost on top of buildings in urban environments and can cause damage to roof shingles in the process. A number of strategies can be employed to reduce turkey conflict with property owners and producers (intercept feeding, proper feed storage, aversion), and populations can typically be managed by hunting to ensure social tolerance limits are not exceeded.

2.2 Historical Hunting Regimes

Turkey are the only upland game bird in Alberta with a license that is on a limited-entry draw system. Hunter success has fluctuated from less than 10% to over 80%, but has stabilized the last 6 years at an average harvest success of approximately 55%. There is currently no documented impact of Alberta's harvest on wild turkey population status and little is known about the productivity, population or annual mortality rates. Unlike other upland game birds, turkeys are not highly productive; therefore, the harvestable surplus may be smaller. Localized over-harvest may occur in areas where wild turkeys are readily accessible. Systematic surveys of turkey populations in southwest Alberta are needed to determine population status and distribution, as well as to monitor or measure impacts that hunting and other factors may have on Alberta's population.

Data for turkey harvest and turkey hunting is patchy with sample telephone survey data available until 2006 and a more robust online game harvest survey starting in 2014. Low success rates do not appear to impact number of hunters willing to apply for a permit. Annual variation in spring weather conditions may also affect degree of effort devoted to turkey hunting by individual hunters. Recreation value, however, appears to be high with individual hunters recently (2014-2018) spending up on average, five days in pursuit of an opportunity to harvest one turkey (Table 1).

TABLE 1. WILD TURKEY HARVEST AND HUNTER ACTIVITY IN SOUTHWESTERN ALBERTA
(1991-2018)

Year	Licences Allocated	Licenses Sold	Actively Hunted	Harvest	Days / Hunter	Active Hunter Success
1991	50	49	44	18	4	40.9%
1992	50	50	43	11	4	25.6%
1993	50	50	39	4	3	10.3%
1995	50	48	40	4	4	10.0%
1996	50	51	40	10	4	25.0%
1997	50	50	39	3	4	7.7%
1998	50	50	43	8	4	18.6%
1999	50	42	36	8	3	22.2%
2000	50	34	NA	NA	NA	NA
2001	50	41	NA	NA	NA	NA
2002	50	38	38	NA	NA	NA
2003	50	47	28	24	6	85.7%
2004	50	42	25	12	6	48.0%
2005	200	165	123	6	2	4.9%
2006	200	159	48	2	7	4.2%
2007	200	167	NA	NA	NA	NA
2008	200	160	NA	NA	NA	NA
2009	200	112	NA	NA	NA	NA
2010	200	112	NA	NA	NA	NA
2011	200	110	NA	NA	NA	NA
2012	150	NA	NA	NA	NA	NA
2013	150	NA	NA	NA	NA	NA
2014	125	93	90	42	5.7	46.7%
2015	125	77	74	41	4.4	55.4%
2016	125	78	70	37	6.2	52.9%
2017	125	79	74	47	4.4	63.5%
2018	125	83	77	47	5	61.0%
2019	150	95	62	36	7.3	58.1%

2.3 Historical Harvest Levels

Male wild turkey harvest and hunter activity for Alberta has been monitored since the season's inception in 1991. Included within Table 1 are licenses allocated and purchased, estimates of active hunters, harvest, hunter effort and percent success. In recent years, harvest has averaged just over 40 birds a year.

2.4 Assessment of Current Population Estimates and Data Collection Methods

Turkeys in Alberta are at the extreme northern edge of their North American range and are susceptible to substantial losses during severe winters. Turkeys in Alberta cannot be considered as truly self-sustaining, as most birds depend on supplemental food sources that they are able to find in farm and ranch yards.

There is no systematic turkey survey anywhere in Alberta, although past population estimates have been made from reported sightings of flocks in farmers' yards. The current population estimate of the southwest population is 1000 birds while the Cypress Hills population is estimated to be 500 birds. The government of Alberta has initiated landowner surveys in the past and will continue to work with non-government organizations to inventory provincial wild turkey populations and monitor range expansion.

2.5 Health- Disease, Nutrition, Condition

Turkeys are a host to a wide variety of diseases and parasites, commonly harboring at least 60 different parasites. These are not considered a limiting factor in turkey populations though. However, they could become a concern in high-density populations and there may be concerns about transmission of parasites and diseases to other birds with which they may come in contact.

Turkeys are omnivorous (Vuilleumier 2009), although turkeys beyond six weeks of age feed predominantly on vegetable matter. Young poults are very dependent on high animal protein food during the first few weeks of life and adults do eat some animal matter when it is available. Turkeys feed by scratching litter on the ground although they do occasionally perch in shrubs and trees to feed on fruit. They are adaptable to food resources available locally and their diet varies both seasonally and regionally. In general, turkeys feed on mast (acorns, nuts and cones), fruits, buds, and seeds during the fall, winter and early spring. During late spring and summer they feed of fruit, leaves, buds and seeds, and they may dig up bulbs of forbs if mast is not available. Animal matter consists mostly of dragonflies (*Odonata*), grasshoppers (*Othoptera*), beetles (*Coleoptera*) and caterpillars (*Lipidoptera*). Daily feeding usually begins shortly after leaving the tree roosts near daybreak and lasts two to three hours, resuming about two to three hours before going to roost at sunset. Turkeys do prefer a source of water and will normally fly to

a water site after leaving the roost in morning and again in evening before roosting for the night (Eaton 1992).

Armstrong (1969) provides the only reference to food habits of turkeys in Alberta. He reports finding one crop of a turkey road kill in Cypress Hills as containing blue grama grass seeds (*Bouteloua* spp.), western snowberry seeds (*Symphoricarpos* spp.), timothy seeds (*Phleum* spp.), rose hips (*Rosa* spp.), seeds of fescue (*Festuca* spp.), bluegrass seeds (*Poa* spp.), wheatgrass seeds (*Agropyron* spp.), seeds of Umbellifers (*Umbelliferae*), chokecherry leaves (*Prunus* spp.) and western snowberry leaves.

2.6 Limiting Factor to Populations

In general, upland game birds are susceptible to many forms of mortality other than hunting, including diseases, parasites, predation, and direct accidental mortality. All such mortality factors are of minimal consequence in managed populations that have an abundance of good quality habitat. In Alberta, hunting is likely the most significant direct mortality factor for turkeys. Properly planned spring hunts for male turkeys that open after nesting has commenced, should not adversely affect reproductive potential of turkey populations. However, mortality caused during fall seasons could be additive, depending on harvest levels (Cardoza 1995).

2.7 Economic and Social Values

While there is no economic information collected in Alberta specific to wild turkeys, hunting in general provides economic benefits to local economies. Turkey hunting is very specialized and hunters will travel from around Alberta, paying for fuel, hotel rooms, food, and equipment (e.g. calls, blinds) for their hunting opportunity. Similar hunting opportunities in Alberta that have a limited geographical scope (ex. Suffield elk hunt) and bring in hunters from across the province have shown financial expenditures by hunters in excess of \$1000, a large portion spent in the local community.

There is also social value for turkeys in Alberta. As with many species, encountering and observing wild turkeys can be a socially valuable experience. Programs designed to engage public and especially young conservationists by encouraging and enabling raising and releasing game birds such as wild turkeys will increase value of all wildlife to Albertans and may serve to bolster wild populations. Under current legislation, no permit or licence is required for raising and releasing wild turkeys in Alberta.

Wild turkey also provide potential economic value on game bird shooting grounds. Similar to ring-necked pheasant and gray partridge, wild turkeys can be purchased from a legal source, or raised and released on to licenced shooting grounds. Resident Albertans that possess a shooting ground licence may charge fees for guiding services and hunting may occur year round with no daily bag limits or possession limits.

3.0 Challenges, Emerging Issues

3.1 Challenges

Currently, there is no restriction or permitting required to release wild turkeys in Alberta. Similar to other non-native game birds (e.g. Ring-necked pheasant and Grey partridge) there is much opportunity to populate wild turkey in new areas of the province. Given the propensity for wild turkey to become a nuisance to agricultural producers, this is something that will need to be monitored. If conflict with producers or the public is an issue, it may become necessary to manage and regulate turkey releases in the future.

3.2 Emerging Issues

Currently, Alberta's wild turkey populations only include Merriam's turkey. Merriam's turkey prefer habitat that appears to restrict them to Alberta's southwest, and the Cypress Hills provincial park. There may be potential for introducing Eastern turkeys into areas in central Alberta. Eastern turkey are widely considered to be more hardy and cold tolerant than Merriam's, and generally occupy a different habitat type. If successful releases are conducted, it could result in greater wild turkey distribution through Alberta. It would be beneficial to evaluate feasibility, cost, as well as identification of potential issues associated with introducing this new sub-species to Alberta. The most likely source for Eastern turkey introductions would be wild trapped birds from Manitoba.



4.0 Management

4.1 Management Goals and Objectives

Goal: The spatial extent and abundance trends of wild turkey populations in Alberta are understood.

Objective: Work with stakeholders and non-government partners to delineate existing turkey range.

Objective: Monitor and communicate annual hunter success.

Goal: Landowner tolerance of turkeys and turkey-based recreation is increased.

Objective: Reduce and mitigate property damage by providing access to tools (e.g. intercept feeding, hazing, or damage control licence).

Goal: Recreational opportunities for consumptive and non-consumptive use of wild turkeys are increased.

Objective: Expand turkey populations in Alberta (e.g. introducing eastern turkey).

Objective: Implement season strategies that increase tag allocations by 50% by 2026.

Objective: Maintain an average active hunter success rate of 30% or greater.

4.2 Targets and Indicators

Presently, we have limited information on distribution and abundance of turkeys in Alberta. To date, hunter success has been the most utilized indicator of turkey population dynamics. It is a goal of this management plan to gain a better understanding of wild turkey distribution and abundance in Alberta. This is best achieved through interactions with landowners and leaseholders reporting turkey sightings on their property, or considerations for the application of citizen science in collecting turkey observations.

4.3 Habitat Objectives

Turkey are an introduced species in Alberta, as such there will be little effort to manage habitat specifically for wild turkey. However, wild turkey habitat management is covered under the umbrella of broader wildlife habitat objectives, as Alberta strives to minimize habitat loss and maintain a variety of habitat for the benefit of all animal species.

4.4 Prioritized List of Knowledge Gaps and Research Needs

Because management of upland game birds in Alberta has been relatively passive, other than limited lek surveys for sharp-tailed grouse, little attention is focused on annual surveys of population status or trends for wild turkeys. Some monitoring has occurred using estimates of wintering populations on farm and ranch land near the Porcupine Hills but little is known about the status of the southwest populations. Development of methods by which to inventory existing and future populations and to determine range expansion in Alberta needs to be explored. Non-government organizations such as the Alberta Conservation Association may provide opportunity for filling in gaps and contributing to knowledge of wild turkey population dynamics in Alberta.

5.0 Harvest Strategies, Tools and Models

5.1 Allocation of Resource by User Group

Opening of a hunting season on wild Merriam's turkeys in spring of 1991 marks the only species of upland game birds with a license that is on the limited-entry draw system. The opportunity to hunt wild turkeys in Alberta is only available to resident hunters. Attractiveness of hunting wild turkeys was evident when 1,156 hunters applied for only fifty permits available in the first hunting season. Since 1991, the number of permits has increased to a high of 200 for the 2005 season and is currently at 150 permits. Hunter interest remains high with over 18,000 active participants in the turkey draw (Table 2). Recent estimates of hunter success and harvest of wild turkey in Alberta remains near 55-60 percent (Table 1).

TABLE 2. NUMBER OF APPLICANTS IN WILD TURKEY DRAW

(does not represent 999) from 2000-2018

Year	Area	Applicants	Number Drawn	Draw Success
2000	Part of WMU 305	1564	50	3.2%
2001	Part of WMU 305	2074	50	2.4%
2003	WMU 302, part of 305	980	52	5.3%
2004	WMU 302, part of 305	776	50	6.4%
2005	WMU 302, part of 305	832	200	24.0%
2006	WMU 300-308, 400, 402	1004	200	19.9%
2007	WMU 300-308, 400, 402	984	200	20.3%
2008	WMU 300-308, 400, 402	3627	200	5.5%
2009	WMU 300-308, 400, 402	4252	200	4.7%
2010	WMU 300-308, 400, 402	4538	200	4.4%
2011	WMU 300-308, 400, 402	4926	200	4.1%
2012	WMU 300-308, 400, 402	4864	150	3.1%
2013	WMU 300-308, 400, 402	5194	150	2.9%
2014	WMU 300-308, 400, 402	4990	125	2.5%
2015	WMU 300-308, 400, 402	5412	125	2.3%
2016	WMU 300-308, 400, 402	6229	125	2.0%
2017	WMU 300-308, 400, 402	6504	125	1.9%
2018	WMU 300-308, 400, 402	6201	125	2.0%
2019	WMU 300-308, 400, 402	6134*	150	2.2%

* over 15,000 additional applicants are in the "999" pool by 2019

5.2 Tools to Achieve Objectives

Currently, only hunter harvest survey and anecdotal information guides allocation of turkey tags in Alberta. Partnerships with landowners, ACA and AFGA can produce a better understanding of turkey distribution and abundance for future management with formal landowner surveys and tools that incorporate aspects of citizen science.

5.3 Hunting Season Dates and Licence Conditions

Hunting for Merriam's turkeys occur annually from May 1-May 31 in WMUs 300-308, 400 and 402. Permitted weapons include shotgun, crossbow or bow and arrow. If using a shotgun, it must be 20ga or larger and shot no larger than #2 and no smaller than #6 is permitted. As Turkeys are harvested under authority of a special licence, harvested birds must be affixed with a tag similar to that used for ungulates.

As wild turkey populations expand their range, opportunity may exist to open new areas for hunting. As well, as populations increase, splitting hunting areas may also allow for increased opportunity for resident, without having a significant impact on hunter success.

6.0 Implementation

6.1 How plan will be implemented

Alberta's wild turkey plan is implemented through allocation of opportunity (special licence) and ongoing collaboration with non-government organizations (NGOs). Together with landowners and NGO's, the GOA will strive to better understand this resource and its capacity to provide opportunity to Albertans in the form of allocations for hunting season, wildlife watching and game bird shooting grounds, as well as their social value on Alberta's landscape.

6.2 Renewal

Review of Alberta's wild turkey management plan will occur every 5 years. If significant or relevant changes to management of Alberta's turkey population are required, this plan will be updated accordingly.

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