Recommendations for Future Wild Turkey Hunting Management

The purpose of this report is to comply with: Laws 2008, Chapter 368 (SF2651), Article 2, Section 73

"The commissioner of natural resources, in consultation with the National Wild Turkey Federation shall provide the legislature with recommendations for future management of hunting wild turkeys in Minnesota."

In accordance with MS 3.197 the following estimated costs are associated with the development and delivery of this report to the legislature as required by Session Law 2008 Chapter 368, Article 2, Section 73. Personnel: $7,500, Travel: $150, Miscellaneous: $100.

HISTORICAL BACKGROUND

The ancestral range of eastern wild turkeys *(Meleagris gallopavo silvestris)* is believed to have included extreme southern Minnesota (Leopold 1931 and Mosby 1959). Turkeys were extirpated from Minnesota after 1880, because of the removal of forested habitats during settlement and unregulated hunting. The first attempts to re-establish wild turkeys in Minnesota occurred in the mid-1920s when hundreds of pen-reared birds were released throughout southern and central Minnesota. In 1926 approximately 250 pen-reared birds from Maryland, Pennsylvania, and Texas were released in 11 Minnesota counties. In 1957, 37 pen-reared turkeys purchased from the Alleghany Turkey Farm in Pennsylvania were released in the Whitewater Wildlife Management Area (WMA) in Winona County. All attempts using pen-raised turkeys failed.

Efforts using live-trapped wild turkeys to re-establish a Minnesota turkey population began in the 1960s. Between 1964-1968, 39 Merriam's wild turkeys *(Meleagris gallopavo merriami)* and eastern wild turkeys live-trapped in Nebraska, South Dakota, and Arkansas were released in the Whitewater WMA. However, the Merriam's subspecies was not well adapted to Minnesota's forest habitat. In 1971 and 1973 eastern wild turkeys, trapped in Missouri and released in Houston County, demonstrated the potential of this subspecies to quickly expand in an area with proper habitat.

Today, the establishment of wild turkeys throughout more than two-thirds of Minnesota (Figure 1) is considered to be a wildlife management success story. MNDNR has released wild turkeys throughout much of Minnesota through live-trapped turkeys from Missouri, New York, Illinois, and other states, as well as translocating thousands of birds within Minnesota. The rapid range expansion of wild turkeys within Minnesota is a result of the excellent habitat provided by a mix of forest and agricultural land. Research has resulted in a broader understanding of turkey ecology in Minnesota and improved management techniques.

The first modern spring hunting season for wild turkeys occurred in 1978 in 2 permit areas in southeastern Minnesota. As turkey numbers increased, a fall season was initiated in 1990. By 2008, the opportunity to hunt wild turkeys had expanded to 73 hunting permit areas throughout two-thirds of Minnesota with many permit areas having both spring and fall hunting. Even though 37,992 spring and 7,560 fall turkey hunting permits were available in 2008, interest still exceeded the opportunity to hunt with spring applications running at about 50,000. In order to increase hunting opportunity, MNDNR wildlife managers improve existing habitats to increase wild turkey numbers and identify new areas that can naturally sustain wild turkeys without negatively impacting other wildlife management efforts.

Several decades of research in Minnesota have provided valuable information about the wild turkey's requirements for life and ability to survive Minnesota's harsh winters. Wooded landscapes, interspersed with agricultural land, are the key to healthy wild turkey populations. Timberlands provide roosting sites and year-round cover, forest edges and openings provide cover for nesting and brood rearing. Agricultural land

provides an important and reliable food source. Haroldson et al. (1998) showed that turkeys could survive winter temperatures in Minnesota provided they could find food. Recent research efforts have focused on increasing hunter numbers while maintaining a safe and quality turkey hunting experience (Kimmel 2001).

Habitat management and research, trap and transplant, as well as cooperation between MNDNR, the National Wild Turkey Federation (NWTF), and other sporting organizations have provided a healthy wild turkey population and excellent turkey hunting opportunities in Minnesota.

DECISION MAKING FRAMEWORK

Permit allocation model, interference rates, and hunter success

To allocate spring turkey hunting permits a mathematical model is used to calculate the optimal number of hunting permits to meet management objectives (Kimmel 2001). Two general factors are used in the permit allocation model, turkey population estimates and hunt quality indicators (Kimmel 2001). Minnesota's current goal is for hunter success to exceed 20% and interference rates to be below 40%.

Recommendations for the number of permits for each permit area are generated by the Farmland Wildlife Populations and Research Group (FWPRG) and are sent to wildlife managers who make their recommendation which are finalized by the assistant and regional wildlife managers. See Appendix A for number of spring and fall turkey permits available, issued, harvest, and hunter success from 1978 – 2008.

Spring turkey hunter survey

Surveying spring turkey hunters is an important component to turkey management in Minnesota. Hunters are surveyed once every 2 years in approximately 1/3 of the PAs open to turkey hunting to determine satisfaction rates. Factors generally considered important in determining hunter satisfaction are: ease of access to hunting land, feeling of safety, lack of interference from other hunters, observing turkeys while hunting, having the opportunity to get a shot, and success in harvesting a turkey (Smith et al. 1992, Dingman 2003). Success is the most often cited factor influencing a quality hunting experience (Stankey et al. 1973, Hende 1974, Dingman 2003). Based on results of the spring survey, turkey hunters are experiencing a quality hunt, characterized generally by high success, low interference, and good access to hunting land.

Turkey range and population estimation

Turkey range and population indices are estimated through the fall wild turkey population survey, which is a mail survey of deer hunters in Minnesota's wild turkey range and potential range. The survey is scheduled once every 2 years and consists of asking randomly selected deer hunters which PA they hunted, if they saw wild turkeys while

hunting, and the approximate location (miles and direction from nearest town) of turkey sightings.

CURRENT SEASON STRUCTURE

Spring Hunt

To regulate harvest and distribute hunting pressure, permits are allocated across 73 permit areas (PAs) and 8 time periods using a quota system. In Minnesota, the interest for spring turkey permits exceeds the supply of permits available. Turkey hunters are required to apply for a permit through a drawing based on a system of preference. Preference is determined by the number of years an unsuccessful application has been submitted since last receiving a permit. Hunters may apply individually or in a group of up to 4 members, and may apply for a second choice permit area and time period. The goal of this system is to provide quality turkey hunting opportunities by distributing hunters in time and space where populations can sustain harvest.

Five types of hunting licenses are available to spring turkey hunters: (1) general lottery permits in which an applicant or a group of up to 4 hunters applies for a specific PA and time period, (2) landowner permits in which up to 20% of permits for each PA and time period are reserved for landowners or tenants who live on 40 acres or more of land within the PA, (3) surplus permits which are available to non-winners on a first come first served basis, (4) archery permits, which can be purchased for the last 2 time periods in any PA with 50 or more permits per period, and (5) military permits which are available to those in active military status.

During 2008, we received 51,000 applications for 37,992 permits. Almost 32,000 general lottery and landowner permits were issued to hunters, and about 4,000 were issued to archers. Hunters registered approximately 11,000 turkeys, an increase of 17% from 2007 Harvest increased in 74% of PAs and was the highest recorded spring harvest in Minnesota, while hunter success averaged 34%, which was above the 5-year average of 32%.

Fall Hunt

The fall hunt is limited to two five-day periods across 50 PAs. Additionally PA 601, which encompasses much of the Twin Cities metro area, has one 30-day time period. The 601 change was implemented in fall 2008. Fall turkey hunting is less popular than spring hunting in Minnesota (just as it is in other parts of the country). This is due in part to the methods used in spring vs. fall hunting. Most hunters consider spring hunting to be much more exciting. Additionally, the fall turkey hunt runs concurrently with many other hunting seasons and most hunters are pursuing other game at this time.

In 2008, 5,834 individuals applied for 7,560 available permits, an increase of 3,070 permits available from 2007. However, only 4,981 permits were issued. Total registered harvest was 1187 turkeys. Harvest was significantly up from 695 turkeys in 2007, and

well above the 5-year average of 708. Hunter success averaged 24%, which was similar to 24% success during the 2007 season and the 5-year average of 23%.

DNR'S VISION FOR TURKEY HUNT MANAGEMENT

Turkey management in Minnesota is in a state of change. Turkey populations are moving from the establishment phase to stable populations through out much of the state. Within 5 years turkey populations should be at carrying capacity throughout nearly the entire turkey range in Minnesota. As turkey populations reach stability management priorities and strategies change. We're moving from very conservative management strategies that allowed the population to expand to strategies that maximize turkey-hunting opportunities and minimize regulatory complexity while still sustaining a healthy turkey population.

FUTURE DIRECTION

Consolidated Permit Areas

The DNR will consider consolidating permit areas. There are currently 73 spring permit areas open to hunting. These permit areas are based upon deer permit areas. During the early growth phases it made sense to have smaller, more easily controlled permit areas. However, larger permit areas reduce regulation and administrative complexity.

Spring over the counter permits

The DNR's hunt management objective is to provide as much opportunity as possible for a quality hunt while still maintaining sustainable wild turkey populations. Occasionally proposals are brought forward by various individuals or organizations to make spring licenses available over the counter. Numerous states use this system and it works well for them. However, these states generally have higher turkey populations that can support more hunting than the demand. This is not the case in Minnesota at this time. Demand for turkey hunting permits still exceeds supply. In 2008 approximately 51,000 people applied for one of 38,000 permits. Demand has stabilized at approximately 50,000 – 52,000 applicants per year. The DNRs ultimate goal is to offer over the counter turkey licenses to everyone who wants to hunt. When we reach population levels that can sustain the pressure of 50,000 hunters we will look at ways to offer permits over the counter. In the mean time we believe that we can offer over the counter permits for the last two time periods in any permit area that has a minimum threshold (to be determined) of permits without having a significant deleterious effect on turkey populations or opportunity to harvest a bird. We will implement this change for the spring season, 2010, pending public input.

Fall over the counters permits

Currently, overall fall hunting opportunities exceed demand. The MNDNR goal is to discontinue the fall lottery based system to allocate permits and may transition to an over the counter sales system.

Additionally, all permit areas that are currently open for spring hunting will be opened for fall hunting. This will be implemented if fall 2009.

The fall turkey hunt is an either sex hunt thus this hunt has the greatest potential to affect the turkey population (because hens are being killed). At this time the turkey population is strong and there is no reason to not implement fall over the counter sales. However, should the population decline significantly it is likely that reductions in season length or permit number restrictions would have to be implemented for the fall season first.

Registration

The DNR Electronic Licensing System (ELS) is currently undergoing major revisions. The new system will be implemented in 2009 and the new system will have the ability to register animals over the telephone. It is likely that telephone registration will be available for spring 2010. We will continue to require that hunters site-tag their turkeys at the time of harvest.

Youth Hunts

To encourage youth hunting DNR is developing methods to make it easier for youth to obtain a permit. Beginning in spring 2010 DNR will allow youth 17 years old and younger to purchase a spring turkey permit over the counter from any DNR license vendor for any season after the C season in permit areas that have 25 permits or more per season. A similar practice will be implemented for the fall hunt. Additionally, the cost of a youth permit was reduced to half price beginning in 2009.

Disabled Hunts

Disabled hunting opportunities are being discussed in a separate Legislative Report in order to comply with Minnesota laws 2008, Chapter 368 (SF 2651), Article 2, Section 75.

Use of dogs

Currently the use of dogs for turkey hunting in Minnesota is illegal. Hunting wild turkeys with dogs during the fall season is allowed in 20 states. It is a long-standing tradition in the southern U.S., and special breeds of dogs have been developed and trained for this purpose.

Allowing the use of dogs for the fall hunt will increase hunting opportunity and may increase the enjoyment and satisfaction level of some turkey hunters. This change would

also allow a licensed turkey hunter to incidentally take a turkey while using a dog for pheasant hunting, etc. Therefore we propose to revise MR 6236.0700 to allow the use of dogs for fall turkey hunting only.

Problem Turkeys

In certain circumstances wild turkeys generate conflicts with humans. During the breeding season turkeys can be somewhat aggressive towards people, especially in areas where they are not hunted. Turkeys can also concentrate around areas of food such as feedlots or silage piles during harsh weather conditions. Many problem birds come from domesticated "wild" turkeys that are illegally released by well-intended members of the public. DNR distinguishes between nuisance and depredation birds.

Nuisance Turkeys

In areas where there is little to no hunting pressure turkeys can sometimes become a nuisance. Behaviors that tend to generate complaints include aggressive behavior towards humans and pets, roosting in unwanted places, defecating on sidewalks, decks, etc, and damage to lawns through feeding activities. In every documented instance of this type of conflict someone has been feeding the turkeys. This is either through intentionally feeding or incidental feeding at birdfeeders, etc. At times these become high profile and are reported by the media.

The DNR's position is that hunting is the most effective solution to nuisance turkeys. Hunting can remove aggressive individuals, reduce populations, and instill wild behavior back into local turkey populations. We do not want our regular permitting system to be an impediment where hunting opportunities are limited due to either access to land or firearms discharge restrictions thus we have begun experimenting with new regulations that would allow virtually unlimited permits and longer seasons in urban/suburban areas. The desired effect is that additional harvest will occur in these areas and that the birds will become wild again. These permit areas would be designated with a "600 series" number and could be created over time around population centers as the need arises. For fall 2008 permit area 601 was modified to include a 30-day (rather than two 5-day) season and permit numbers were increased to the point where everyone who wanted to hunt was drawn. In the future, DNR will also consider implementing second permits for successful hunters in 600 series permit areas. At this time the second permit option is not appropriate in other areas of the state where demand exceeds supply. DNR will also encourage and work with local jurisdictions to have special turkey hunts in areas not normally open to turkey hunting to encourage population reductions in areas with significant nuisance turkey problems.

Depredating Turkeys

During harsh winters when the snow is deep, turkeys may congregate in large flocks of one hundred or more birds near food resources. At times these food resources include

feedlots and silage piles. Turkeys have even been known to enter barns looking for food during extremely difficult winters. These behaviors cause conflicts with farmers.

Under current conditions that include very healthy and expanding turkey populations along with declining human and financial resources, the Department is revising its guidelines to move more quickly towards the issuance of shooting permits. It should be noted that few turkeys have actually been taken on shooting permits in the past. Generally only a few turkeys need to be shot before the flock leaves an area, which is much more efficient than hazing or netting.

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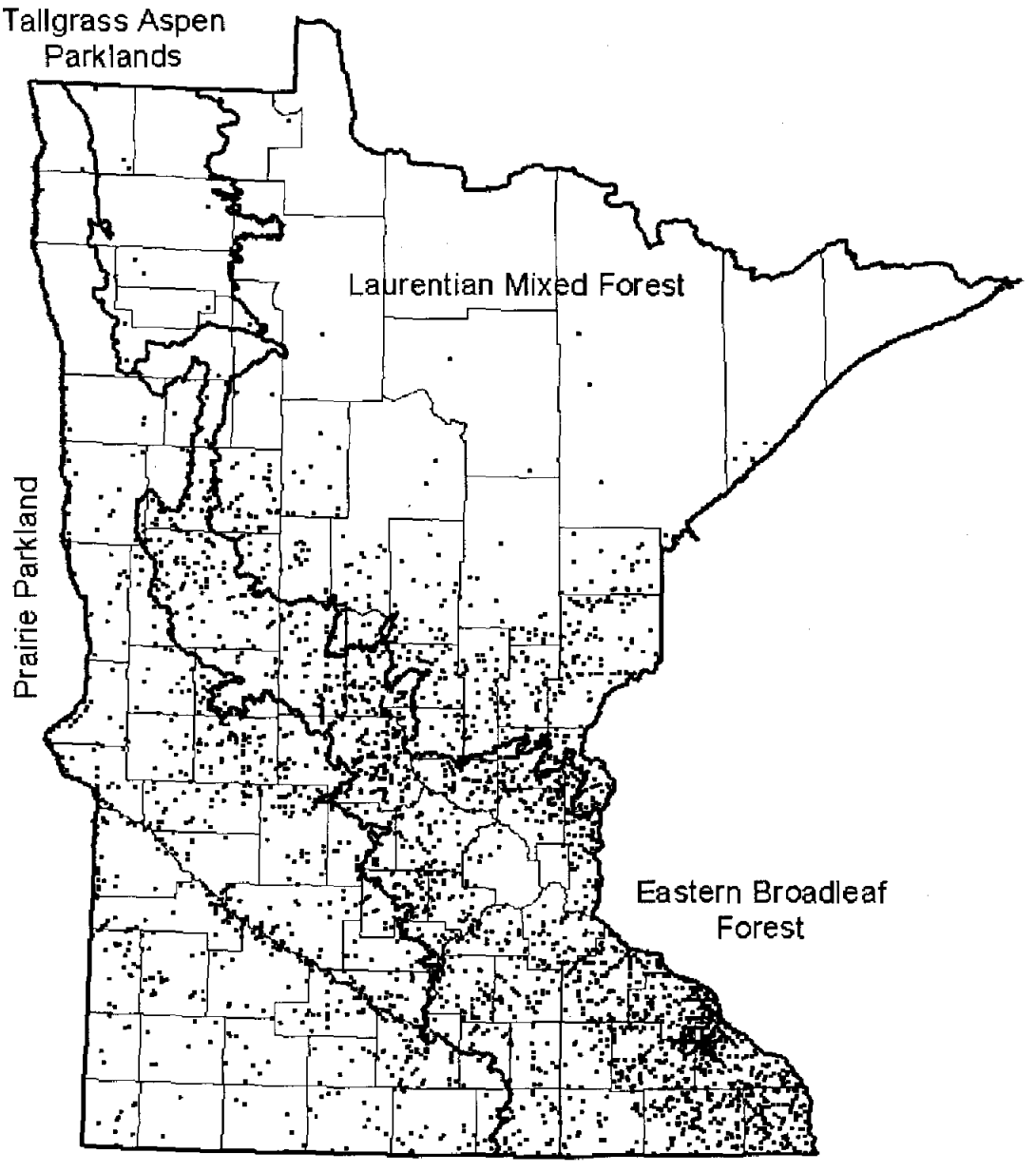

Fig. 1. Distribution of wild turkey sightings based on a survey of regular firearm deer permit holders in Minnesota, fall 2006.

Appendix A. Spring and fall applicants, permits available, permits issued and harvest from 1978 – 2008 for all wild turkey hunting seasons, Minnesota.

	Spring						Fall		
Year	Applicants	Permits available	Permits issued	Permits issued (%)	Registered harvest	Hunter success (%)[a]	Applicants	Permits available	Harvest
1978	10,740	420	411	97.9	94	22.9	-	-	-
1979	11,116	840	827	98.5	116	14.0	-	-	-
1980	9,613	1,200	1,191	99.3	98	8.2	-	-	-
1981	8,398	1,500	1,437	95.8	113	7.9	-	-	-
1982	7,223	2,000	1,992	99.6	106	5.3	-	-	-
1983	8,153	2,100	2,079	99.0	116	5.6	-	-	-
1984	7,123	3,000	2,837	94.6	178	6.3	-	-	-
1985	5,662	2,750	2,449	89.1	323	13.2	-	-	-
1986	5,715	2,500	2,251	90.0	333	14.8	-	-	-
1987	6,361	2,700	2,520	93.3	520	20.6	-	-	-
1988	8,402	3,000	2,994	99.8	674	22.5	-	-	-
1989	13,007	4,000	3,821	95.5	930	24.3	-	-	-
1990	14,326	6,600	6,126	92.8	1,709	27.9	4,522	1,000	326
1991	15,918	9,170	8,607	93.9	1,724	20.0	2,990	2,200	552
1992	16,401	9,310	9,051	97.2	1,691	18.7	2,782	2,200	588
1993	17,800	9,625	9,265	96.3	2,082	22.5	3,186	2,400	605
1994	19,853	9,940	9,479	95.4	1,975	20.8	3,124	2,500	601
1995	21,345	9,975	9,550	95.7	2,339	24.5	3,685	2,500	648
1996	23,757	12,131	10,983	90.5	2,841	25.9	4,453	2,500	685
1997	25,958	12,530	11,610	92.7	3,302	28.4	4,574	2,580	698
1998	29,727	14,035	13,229	94.3	4,361	33.0	4,526	2,710	828
1999	39,957	18,360	16,387	89.3	5,132	31.3	5,354	2,890	865
2000	42,022	20,160	18,661	92.6	6,154	33.0	5,263	3,090	735
2001	41,048	22,936	21,404	93.3	6,383	29.8	4,501	2,870	629
2002	42,415	24,136	22,607	93.7	6,516	28.8	5,180	3,790	594
2003	44,415	25,016	22,770	91.0	7,666	33.7	5,264	3,870	889
2004	48,059	27,600	25,261	91.5	8,434	33.4	5,878	4,380	758
2005	49,181	31,748	27,638	87.1	7,800	28.2	4,542	4,410	681
2006	45,704	32,624	27,876	85.4	8,241	29.6	4,167	4,290	618
2007[b]	52,566	33,976	28,320	83.4	9,412	33.2	4,464	4,490	695
2008[b]	51,000	37,992	31,942	84.1	10,994	34.4	5,834	7,560	1,187

[a] Success rate not adjusted for non-participation
[b] Youth hunt data included