SUMMARY: SOUTH DAKOTA WILD TURKEY MANAGEMENT PLAN 2021–2030

SOUTH DAKOTA DEPARTMENT OF GAME, FISH AND PARKS
PIERRE, SOUTH DAKOTA

WILDLIFE DIVISION REPORT 2021–01S

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EXECUTIVE SUMMARY

This document is a brief summary of the comprehensive South Dakota Wild Turkey Management Plan, 2021-2030. We encourage readers to reference the full plan for information not contained in this document.

The wild turkey (*Meleagris gallopavo*) is the largest native gamebird in North America. Wild turkeys were likely extirpated from the state by 1920 when market hunting and woodland destruction resulted in drastic declines in nation-wide wild turkey populations. Since the late 1940s, there has been an extensive effort to restore wild turkey populations across its range and due to many successful reintroductions, wild turkeys have returned to much of their historical range. Wild turkey restoration to native and expanded range is one of the greatest success stories in game management and wildlife conservation. Unfortunately, turkey populations from 2004 to 2014 have declined 5-8% in the United States, motivating resource agencies to direct research activities on determining which demographic parameters management should focus in order to have the greatest impact on population growth.

This management plan provides important historical background and relevant biological information for the sustainable management of wild turkeys. Current wild turkey survey methodology and relevant biological literature are presented, along with a thorough discussion of objectives and strategies to guide management of this important resource into the future. This plan is intended to guide managers and biologists over the next ten years but should be considered a working document that will be amended as new biological and social data provide opportunities to improve management of wild turkey resources in South Dakota.

For the management of wild turkeys the following objectives have been identified: 1) Annually determine status of wild turkey populations; 2) Biannually review and set wild turkey management unit population objectives; use harvest strategies to manage population within identified population objectives; 3) Cooperatively work with private landowners to resolve wild turkey depredation to stored-feed supplies and damage to other private property; 4) Maintain, manage, and protect existing wild turkey habitat throughout South Dakota; 5) The South Dakota Department of Game, Fish, and Parks (SDGFP) will provide the public with hunting access to quality habitat on private and public land; 6) Continue to use science-based research, habitat inventories, and surveys to answer questions related to wild turkey ecology and public attitudes towards wild turkey management; and 7) The SDGFP will inform and educate the public on wild turkey ecology, management, and research.

The "*South Dakota Wild Turkey Management Plan 2021-2030*" will serve as the guiding document for decision making and implementation of actions to ensure wild turkey populations and their habitats are managed appropriately. The SDGFP will work closely with other public land managers, private landowners, and sportsmen and women to overcome the challenges and take advantage of opportunities regarding the future management of wild turkeys in South Dakota.

Introduction

The wild turkey (*Meleagris gallopavo*) is the largest native gamebird in North America. The 5 subspecies of wild turkeys occurring in the wild are the eastern (*M. g. silvestris*), Florida (*M. g. osceola*), Merriam's (*M. g. merriami*), Rio Grande (*M. g. intermedia*), and the Gould's (*M. g. mexicana*). Eastern wild turkeys historically inhabited woodlands of southeastern South Dakota with their range stretching northwest to the mouth of the Cheyenne River. Wild turkeys were likely extirpated from the state by 1920 when market hunting and woodland destruction resulted in drastic declines in nation-wide wild turkey populations. Consequently, all populations of wild turkeys in South Dakota are the result of introductions or reintroductions. National wild turkey populations hit their low point in the 1930s which initiated modern day conservation and wildlife management efforts for population recovery.

Harvest Strategies

The goal for wild turkey management in South Dakota is to maximize user opportunity while maintaining populations consistent with ecological, social, aesthetic, and economic values of the people of South Dakota and our visitors. One direct way to maximize opportunity and manage wild turkey populations is by implementing a harvest strategy that provides the population the potential to reach the objective. Unit-level wild turkey populations will be managed with an emphasis on providing spring hunting opportunity. Fall hunting seasons will be used for additional hunting opportunity and population control. Input from SDGFP staff, the wild turkey management stakeholder group, and the public have been incorporated into harvest management strategies for the Black Hills and prairie units. The intent is to develop a harvest strategy with a consistent management philosophy across units, but allow for flexibility in unit-level recommendations based on data and field staff input. This plan does not recommend any changes to the mentored youth season structure. The Custer State Park season will be evaluated periodically in cooperation with the Division of Parks and Recreation.

Prairie Harvest Strategy— Wild turkey units will be assigned a population objective of *increase, maintain, or decrease* on a biannual basis in alignment with the season setting schedule. A unique harvest strategy will be utilized for each population objective (Figure 1). The unit objective will be based on available biological data, hunter survey comments, landowner comments, public comments, and field staff observations. Hunter success and harvest success can be used interchangeably when we discuss success rates for management. A minimum threshold based on spring hunter success and licenses issued will need to be met for a unit to be considered at or above population objective (maintain or decrease population objective). The minimum threshold is based on the upper 95% confidence interval (UCI) of hunter success. If the UCI is ≥ 40% and licenses issued is ≥ minimum license target for the previous 2 years the population will be considered at or above population objective. Wildlife managers will collaborate with field staff to initially develop the minimum spring license targets based on field staff experience and past harvest data. If the UCI falls below 40% spring hunter success or tags fall below the minimum license target for 2 consecutive years, the fall season will be closed. If spring license allocation is ≤ 80 licenses caution should be used in opening a fall season (even if in the maintain or decrease population objective) as there could be concerns with potential

additive mortality from any fall hen harvest. The *Unit Objectives* table (Table 1) will be used to: 1) view past spring hunting season statistics; 2) define minimum license target; and 3) track hunting statistics through the life of the management plan.

This framework is flexible in that even if a threshold to close the fall season is not met, the fall season could still be closed. Similarly, if a unit is below objective, but a fall closure threshold is not met, a fall season could still be utilized with a conservative number of tags to address depredation. Also, the population objective could still be *increase* even if the minimum threshold is met based on other factors (e.g. field staff input).

Population Objective	Increase	Maintain	Decrease
Justification	Turkey population below objective based on available biological data, hunter survey comments, public comments, and field staff observations. Turkey depredation on stored livestock forage is expected to be nonexistent or limited to isolated cases and should be adequately addressed through the wildlife damage management program. After all other tools have been exhausted, unique situations may be addressed using depredation pool hunts, kill permits, or trap and transfer to areas with low turkey abundance when fall season is closed.	Turkey population at objective based on available biological data, hunter survey comments, public comments, and field staff observations. Manageable turkey depredation on stored livestock forage is expected, but should be adequately addressed through wildlife damage management program, fall hunting (if open), trap and transfer, or depredation pool hunts. After all other tools have been exhausted, unique situations may be addressed using kill permits when fall season is open or closed.	Turkey population above objective based on available biological data, hunter survey comments, public comments, and field staff observations. Turkey depredation on stored livestock forage is expected to be above desired levels, but can usually be addressed through wildlife damage management program, fall hunting, trap and transfer, or depredation pool hunts. After all other tools have been exhausted, unique situations may be addressed using kill permits when fall season is open. Indicators for this category would be moderate to overabundant populations causing moderate to major depredation among landowners in the unit.
Hunting Season Structure Options	Spring: single bearded turkey licenses or close spring season Fall: Limited number of single or double any turkey licenses which allows for population growth and/or reduce size of unit to limit harvest to specific area, or close fall season.	Spring: Single or double bearded turkey licenses with option of split spring seasons Fall: Single or double any turkey licenses issued at a level expected to keep population within population objective Close fall season in units where population is expected to decline with fall harvest. Fall unit boundaries may be reduced in size.	Spring: Single or double bearded turkey licenses with option of split spring seasons Fall: Single or double any turkey licenses issued at a level expected to decrease population
Minimum Categorical Thresholds to Meet Objective or Close Fall Season	The 95% Upper Confidence Interval (UCI) of spring hunter success falls below the 40% threshold in one of two consecutive seasons; or spring license allocation is below minimum taget for one of two consecutive seasons (See unit objectives table). Under this scenario, fall turkey season could be closed. _____ **Threshold to close fall season** The 95% Upper Confidence Interval (UCI) of spring hunter success falls below the 40% threshold for 2 consecutive seasons; or license allocation is below minimum target for 2 consecutive seasons (See unit objectives table).	The 95% Upper Confidence Interval (UCI) of spring hunter success is ≥ 40% and minimum spring license target is met for 2 consecutive seasons (See unit objectives table). *Note: If this threshold is met, population objective could be shifted to increase based on other justifications.*	The 95% Upper Confidence Interval (UCI) of spring hunter success is ≥ 40% and minimum spring license target is met for 2 consecutive seasons (See unit objectives table). *Note: If this threshold is met, population objective could be shifted to maintain based on other justifications.*

Figure 1. Prairie units harvest strategies, 2021–2030.

Table 1. Prairie wild turkey unit objectives and hunting statistics, 2014–2022. For a unit to be in the maintain or decrease unit objective category, the upper 95% confidence interval (UCI) of hunter success must be ≥ 40% and licenses issued is ≥ minimum license target for the previous 2 years (2nd column). Cells shaded red indicate the UCI for spring hunter success is below 40%. Yellow highlight indicates below minimum license target. Before 2020, for a unit to be in the maintain or decrease unit objective category, hunter success (including 95% confidence interval) must be ≥ 40% with a tag allocation ≥ the minimum license allocation target.

					2003 - 2015 Average			2016 - 2020 Average			2021			2022		
Unit	Unit No.	Minimum License Target	Current Population Objective	Threshold met to close fall season	Hunter Success %	Licenses sold	Tags sold	Hunter Success %	Licenses sold	Tags sold	Hunter Success (95% C.I.)	Licenses sold	Tags sold	Hunter Success (95% C.I.)	Licenses sold	Tags sold
Aurora/Douglas	10A	30	Increase	No	51	30	30	38	30	30	50 (30-70)	30	30	44 (29-60)	30	30
Bennett	11A	50	Increase	No	71	62	112	45	37	37	50 (36-65)	33	33	67 (39-91)	32	32
Bon Homme	12A	250	Increase	No	52	252	252	44	260	260	66 (60-71)	250	250	53 (46-59)	249	249
Brookings	06A	10	Increase	No	39	32	32	33	20	20	67 (54-75)	20	20	43 (30-58)	20	20
Brule/Buffalo	13A	100	Increase	No	53	82	82	43	146	146	45 (39-52)	150	150	59 (50-67)	154	154
Butte/Lawrence	15A	400	Increase	No	57	415	830	46	377	377	57 (53-62)	378	378	57 (51-62)	378	378
Campbell/Walworth	16A	10	Maintain	No	NA	0	0	48	10	10	71 (50-80)	10	10	75 (36-90)	10	10
Charles Mix	17A	300	Increase	No	51	318	445	38	360	360	47 (42-52)	350	350	46 (40-51)	350	350
Clay	19A	75	Increase	No	48	119	119	38	120	120	45 (37-54)	120	120	52 (44-61)	120	120
Corson	20A	100	Increase	No	53	126	232	37	86	86	50 (39-61)	54	54	52 (35-70)	54	54
Custer/ Penn-Mid	21A	125	Increase	No	54	146	293	40	160	190	58 (50-65)	162	162	44 (34-53)	160	160
Davison/Hanson	08A	150	Increase	No	50	108	108	30	159	159	45 (38-52)	160	160	46 (41-50)	160	160
Day/Codington	22A	50	Maintain	No	40	60	60	43	76	76	41 (34-48)	90	90	44 (33-55)	90	90
Deuel	23A	75	Maintain	No	56	60	60	47	94	94	48 (40-56)	110	110	49 (40-59)	110	110
Dewey/Ziebach	24A	100	Increase	No	56	199	359	36	152	152	54 (45-64)	164	164	55 (45-65)	162	162
Fall River	27A	150	Maintain	No	56	209	418	42	129	226	54 (46-62)	81	81	52 (42-63)	81	81
Grant	29A	185	Maintain	No	57	176	176	48	219	219	58 (54-62)	258	258	55 (49-60)	258	258
Gregory	30A	700	Increase	No	57	898	1351	38	776	776	54 (51-57)	756	756	51 (47-55)	753	753
Haakon	31A	200	Maintain	No	63	226	403	45	216	432	61 (56-66)	216	432	59 (51-66)	211	422
Hamlin/Clark	32A	10	Increase	No	46	20	20	31	10	10	38 (30-49)	20	20	50 (35-65)	20	20
Harding	35A	150	Increase	No	46	190	306	33	117	117	42 (34-49)	108	108	54 (45-63)	108	108
Hughes	36A	30	Increase	No	50	36	55	45	32	32	44 (33-54)	30	30	46 (34-57)	30	30
Hutchinson	37A	60	Increase	No	41	64	64	33	64	64	55 (47-62)	60	60	44 (33-55)	60	60
Jackson	39A	150	Maintain	No	64	173	308	46	169	169	70 (62-77)	162	162	75 (66-84)	150	150
Jerauld/Beadle/Hand	40A	10	Increase	No	24	10	10	36	10	10	55 (33-75)	20	20	40 (20-63)	20	20
Jones	41A	75	Increase	No	60	62	69	39	77	77	57 (42-71)	81	81	60 (37-83)	81	81
Lincoln	44A	80	Increase	No	40	98	98	29	100	100	38 (32-44)	100	100	34 (31-36)	100	100
Lyman	45A	100	Increase	No	57	129	206	34	119	119	55 (49-62)	109	109	55 (46-65)	108	108
Marshall/Roberts	48A	330	Maintain	No	50	404	508	46	400	400	47 (43-50)	441	441	51 (46-55)	438	438
Meade/Penngtn	49A	300	Increase	No	66	352	704	47	318	636	61 (55-66)	325	650	56 (50-61)	326	652
Mellette	50A	350	Increase	No	63	527	1001	39	368	368	57 (52-63)	378	378	50 (44-56)	373	373
Minnehaha	01A	60	Increase	No	36	92	92	37	80	80	34 (26-42)	82	82	58 (48-68)	80	80
Moody	52A	30	Increase	No	50	31	31	42	60	60	42 (33-50)	60	60	48 (38-57)	60	60
Oahe Downstream	58B	0	Maintain	No	100	1	1	63	2	2	NA	0	0	0 (0-0)	2	2
Pennington-East	02A	150	Increase	No	65	179	358	50	168	197	52 (45-59)	216	216	57 (48-65)	210	210
Perkins	53A	75	Increase	No	58	108	212	36	89	179	37 (28-46)	108	216	43 (32-53)	110	220
Sanborn	56A	20	Increase	No	41	43	47	34	16	16	44 (40-50)	10	10	50 (30-70)	10	10
Oglala Lakota	65A	50	Increase	No	74	42	73	40	40	40	65 (49-81)	44	44	50 (28-73)	44	44
Stanley	58A	40	Increase	No	42	53	53	37	46	46	53 (44-63)	44	44	35 (19-51)	44	44
Todd	67A	75	Increase	No	63	68	68	39	73	73	70 (56-84)	72	72	81 (66-95)	81	81
Tripp	60A	350	Increase	No	63	434	500	44	431	431	64 (59-69)	437	437	54 (47-60)	421	421
Turner	61A	20	Increase	No	38	44	44	47	20	20	60 (47-70)	20	20	39 (25-56)	20	20
Union	62A	120	Increase	No	47	123	123	36	120	120	52 (46-57)	120	120	51 (42-60)	120	120
Yankton	07A	200	Increase	No	49	217	217	46	242	242	52 (48-57)	260	260	54 (48-60)	260	260

Black Hills Harvest Strategy—Unlike the limited spring tag allocation of the prairie units, the Black Hills unit is unique in that it provides an unlimited tag allocation for spring wild turkey hunting. This primary difference provides us with an opportunity to obtain a surrogate abundance estimate based on a 2-year mean of previous spring harvest which categorizes population status by levels of *low*, *moderate*, or *high* (Table 2, Figure 2). Once population status is estimated and our objective is obtained, we have several categories where specific harvest strategies are designated for each objective. Within each objective of *increase*, *maintain*, or *decrease*, we have "A", "B", and "C" harvest strategy categories that can be implemented.

Hunter success and harvest success can be used interchangeably when we discuss success rates for management. The "A" category is triggered for each population status level when spring harvest is at or below 30% (including 95% confidence intervals) for 2 consecutive years. The "B" category is triggered for each population status level when spring harvest is at or below 30% (including 95% confidence intervals) for 1 year, and is above for 1 year. The "C" category is triggered for each population status level when spring harvest is above 30% (including 95% confidence intervals) for 2 consecutive years. This adaptive process of utilizing a 2-year mean for obtaining population status, as well as limiting fall harvest by categories *A-C*, should limit potentially large population swings related to fall harvest and will ensure more stability as it relates to harvest management. This strategy outlines a range of potential fall tag allocations and tag types which can be implemented by category (Figure 2). Spring tag allocation is assumed to be unlimited each year as this provides a basis for obtaining our population status. It should be noted that both fall and spring seasons can be closed when major disease or weather events cause severe population declines regardless of current population status, through the emergency rule-making authority of the SDGFP Commission. A map of unit objectives for prairie, Black Hills, and Custer State Park seasons is available in Figure 3.

Population Status or Surrogate Abundance	**Low** **≤1400 mean harvest from previous 2 spring hunting seasons**	**Moderate** **1401-1899 mean harvest from previous 2 spring hunting seasons**	**High** **≥1900 mean harvest from previous 2 spring hunting seasons**
Population Objective	**Increase**	**Maintain**	**Decrease**
Justification	Turkey population objective based on surrogate abundance estimate given above. Turkey depredation on stored livestock forage is expected to be nonexistent or limited to isolated cases and should be adequately addressed through the wildlife damage management program. After all other tools have been exhausted, unique situations may be addressed using pool hunts, kill permits, or trap and transfer to areas with low turkey abundance when fall season is closed.	Turkey population objective based on surrogate abundance estimate given above. Manageable turkey depredation on stored livestock forage is expected, but should be adequately addressed through wildlife damage management program, fall hunting (if open), trap and transfer, or depredation pool hunts. After all other tools have been exhausted, unique situations may be addressed using kill permits when fall season is open or closed.	Turkey population objective based on surrogate abundance estimate given above. Turkey depredation on stored livestock forage is expected to be above desired levels, but can usually be addressed through wildlife damage management program, fall hunting, trap and transfer, or depredation pool hunts. After all other tools have been exhausted, unique situations may be addressed using kill permits when fall season is open. Indicators for this category would be moderate to overabundant populations causing moderate to major depredation among landowners in the unit.
A: **Spring success 95% CI below or overlapping 30% previous 2 seasons**	Spring: Single bearded turkey licenses and 1 license per person. Fall: Single any turkey licenses but limit to 200 or less. Fall unit boundaries may be reduced in size.	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single any turkey licenses but limit to 400 or less. Fall unit boundaries may be reduced in size.	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single or double any turkey licenses but limit to 1500 or less. Fall unit boundaries may be reduced in size.
B: **Spring success 95% CI below or overlapping 30% 1 of previous 2 seasons**	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single any turkey licenses but limit to 300 or less. Fall unit boundaries may be reduced in size.	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single any turkey licenses but limit to 500 or less. Fall unit boundaries may be reduced in size.	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single or double any turkey licenses but limit to 2000 or less. Fall unit boundaries may be reduced in size.
C: **Spring success 95% CI above 30% previous 2 seasons**	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single any turkey licenses but limit to 400 or less. Fall unit boundaries may be reduced in size.	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall: Single any turkey licenses but limit to 600 or less. Fall unit boundaries may be reduced in size.	Spring: Single bearded turkey licenses and up to 1 license for non-residents and 2 licenses for residents. Fall:Single or double any turkey licenses but limit to 2500 or less. Fall unit boundaries may be reduced in size.

Figure 2. Black Hills unit harvest strategy, 2021–2030.

Table 2. Black Hills wild turkey unit objectives and hunting statistics, 2014–2022. First, a surrogate abundance estimate is obtained using a 2-year mean of previous spring harvest which categorizes population status by levels of low (≤1400), moderate (1401-1899), or high (≥1900). Population objectives are based on the surrogate abundance estimates and include increase, maintain, or decrease.

Year	Hunter Success (95% C.I.)	Licenses sold	Spring Tags sold	Spring Harvest	Abundance	Objective	Strategy[a]	Fall Tags Sold	Fall Harvest
2014	32 (29-35)	3944	3944	1258	1601 (Moderate)	Maintain	NA	810	100 males, 114 hens
2015	32 (28-36)	3877	3877	1258	1388 (Low)	Increase	NA	433	66 males, 62 hens
2016	39 (37-44)	4056	4056	1575	1258 (Low)	Increase	B	434	91 males, 55 hens
2017	39 (36-43)	4401	4401	1701	1417 (Moderate)	Maintain	C	433	87 males, 52 hens
2018	34 (29-36)	4567	4567	1441	1638 (Moderate)	Maintain	B	220	27 males, 26 hens
2019	32 (29-35)	4545	4545	1365	1403 (Moderate)	Maintain	A	216	34 males, 18 hens
2020	27 (23-30)	4733	4733	1287	1326 (Low)	Increase	A	109	11 males, 15 hens
2021	29 (28-30)	6303	6303	1776	1532 (Moderate)	Maintain	A	109	18 males, 9 hens
2022	30 (29-32)	5133	5133	1563	1670 (Moderate)	Maintain	A		

[a]Implementation of harvest strategies did not occur until 2016. The harvest strategy is determined using the previous 2 years of harvest success. The "A" category is triggered for each population status level when spring harvest is at or below 30% (including 95% confidence intervals) for 2 consecutive years. The "B" category is triggered for each population status level when spring harvest is at or below 30% (including 95% confidence intervals) for 1 year, and is above for 1 year. The "C" category is triggered for each population status level when spring harvest is above 30% (including 95% confidence intervals) for 2 consecutive years.

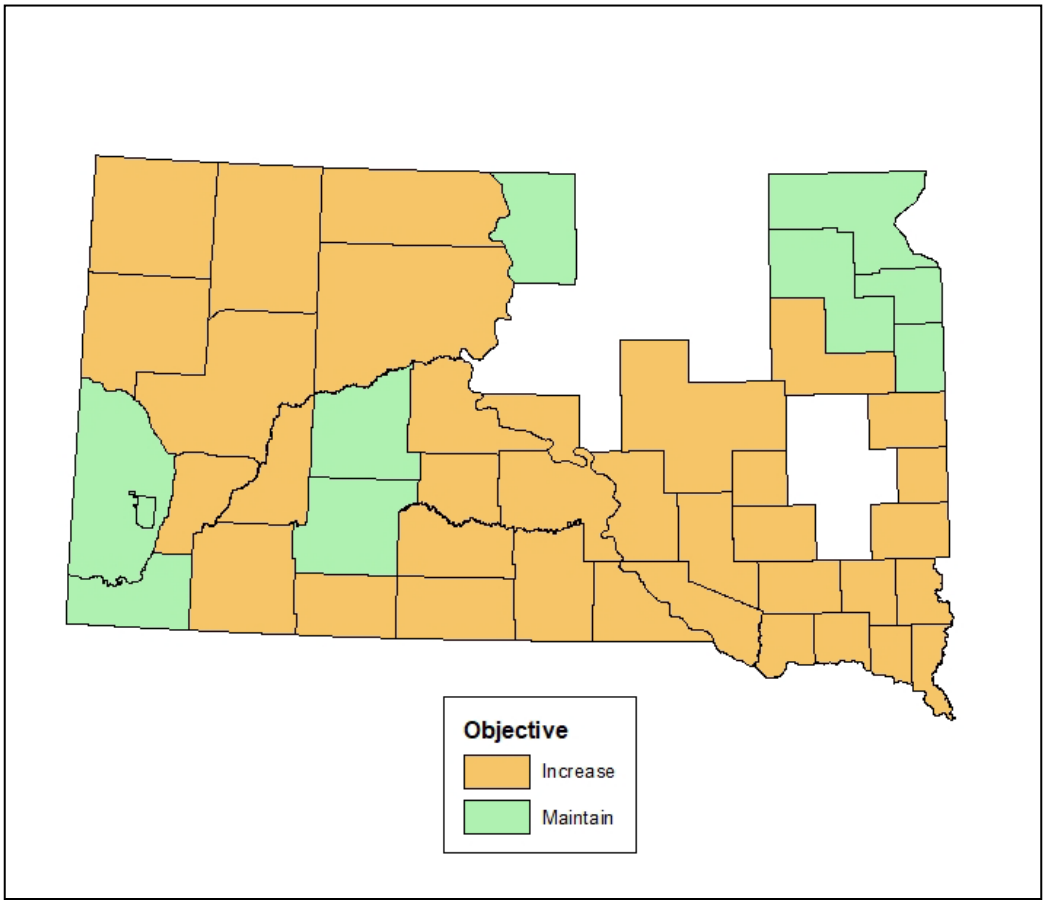

Figure 3. Unit-level population objectives for prairie, Black Hills, and Custer State Park spring hunting units, 2022.

GOALS & OBJECTIVES

Goal for wild turkey management in South Dakota is to maximize user opportunity while maintaining populations consistent with ecological, social, aesthetic, and economic values of the people of South Dakota and our visitors.

Objectives

Objective 1. Annually determine status of wild turkey populations.

Objective 2. Biannually review and set wild turkey management unit population objectives; use harvest strategies to manage population within identified population objectives.

Objective 3. Cooperatively work with private landowners to resolve wild turkey depredation to stored-feed supplies and damage to other private property.

Objective 4. Maintain, manage, and protect existing wild turkey habitat throughout South Dakota.

Objective 5. The SDGFP will provide the public with hunting access to quality habitat on private and public land.

Objective 6. Continue to use science-based research, habitat inventories, and surveys to answer questions related to wild turkey ecology and public attitudes towards wild turkey management.

Objective 7. The SDGFP will inform and educate the public on wild turkey ecology, management, and research.

Please refer to the full South Dakota Wild Turkey Management Plan, 2021-2030, for specific strategies used to accomplish each objective.