



Idaho
Wild Turkey
Management Plan
2022-2027



Prepared by **IDAHO DEPARTMENT OF FISH AND GAME**
November 2021 (DRAFT)

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EXECUTIVE SUMMARY

The wild turkey (*Meleagris gallapovo*), North America's largest native game bird, is not native to Idaho. The Idaho Department of Fish and Game (Department) first introduced wild turkeys in 1961. Through subsequent releases, and trapping and translocation efforts, turkey populations are now estimated between 26,000 and 55,000 birds, with hunting opportunities in all 7 of the Department's administrative regions. The wild turkey has become a valuable game species in Idaho and provides generous hunting opportunities during both spring and fall seasons. Further, turkey hunters annually spend tens of millions of dollars on trip-related expenses, which contribute significantly to rural Idaho communities.

While turkey populations have increased in size and distribution to provide considerable hunting opportunities, so too have agricultural damage and nuisance complaints. Consequently, statewide guidance is needed to optimize wild turkey management in Idaho.

The Department was established to preserve, protect, perpetuate, and manage all wildlife in Idaho, and provide for the citizens of Idaho and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing, and trapping. Species management plans are developed to provide regional and statewide direction to help fulfill this mission. The Department has not previously developed a statewide wild turkey management plan.

This Idaho Wild Turkey Management Plan (Plan) will provide guidance for staff to implement management actions that will enhance wild turkey habitat and populations, resolve landowner and wild turkey conflicts, and provide recreational hunting opportunities that reflect preferences of Idaho hunters. To better understand views of Idaho wild turkey hunters and inform management guidance for this planning process, the Department conducted an opinion survey of wild turkey tag holders during June 2020. Data from the survey were used to inform this Plan.

The Plan identifies major issues that affect wild turkey management in Idaho and will function as the action plan to help guide overall direction for management during the next six years (2022–2027). This plan will guide the Department in annual work plan development and program prioritization, and provide guidance on development of regulatory recommendations.

As such, the Plan identifies 5 main priorities to address during the 2022–2027 planning period:

- Hunter opportunity and harvest
- Population management and monitoring
- Nuisance and depredations
- Habitat improvement and management
- Hunting access

These priorities were identified by the wild turkey management planning team to improve wild turkey management and hunter opportunity. Responses to the wild turkey hunter opinion survey reinforced the importance of hunter opportunity, habitat improvement and management, and increased hunter access to wild turkey hunting. Furthermore, as the human population in Idaho continues to grow, maintaining, managing, and improving wild turkey habitat will be increasingly important to 1) optimize public hunting opportunity; 2) balance interests of hunters, wildlife enthusiasts, private landowners, and producers; and 3) simultaneously mitigate human-wild turkey conflicts.

INTRODUCTION

Wild turkey (*Meleagris gallapovo*) populations in North America were conservatively estimated at approximately 10 million birds prior to the arrival of Columbus (Kennamer et al. 1992). However, populations rapidly declined due to unregulated subsistence harvest and habitat loss as Europeans moved westward (Kennamer 1986). An estimated 200,000 birds remained by the early-to mid-twentieth century, a population decline of >90% (NWTF 2017). Population estimates currently exceed 6.7 million birds in North America due to improved population management and range expansion (NWTF 2020).

The wild turkey is not native to Idaho. The original range of wild turkeys in the United States covered most of the central and eastern U.S. (Fig. 1). The western edge of their range was limited by the lack of woodland habitat in prairie and shrubsteppe regions; absence of trees suitable for roosting was presumed to be the limiting factor (Williams 1981). Due to successful introduction and reintroduction programs, wild turkeys now reside in the contiguous U.S. and Hawaii, portions of southern Canada, and central and eastern Mexico. The current range of wild turkeys in North America is larger than at any time in recorded history.

There are five subspecies of wild turkey in the U.S. (Stangel et al. 1992). The Merriam's (*M. g. merriami*) and Rio Grande (*M. g. intermedia*) subspecies are well-established in western states, whereas eastern (*M. g. silvestris*) and Florida or Osceola (*M. g. osceola*) wild turkeys are found in the eastern U.S. The Gould's wild turkey (*M. g. mexicana*), exists in small isolated populations in New Mexico (Potter et al. 1985) and Arizona (Schemnitz and Zeedyk 1992).

Of these, three subspecies were introduced into the state (Hemker 1997). In January 1961 the Idaho Department of Fish and Game (Department) first introduced Merriam's wild turkeys into the Salmon River watershed in Game Management Unit (GMU) 18 near Whitebird (Redetzke 1968). Two additional releases occurred in the Salmon River drainage, in GMUs 18 and 14, during spring 1962 and 1963, respectively (Appendix [AB](#)). By 1967 Merriam's wild turkey populations expanded from original release locations and occupied most of the ponderosa pine (*Pinus ponderosa*) habitat from Riggins to Whitebird (Neider 1967). The entire wild turkey population in Idaho was comprised of the Merriam's subspecies until winter 1981–1982, when Rio Grande wild turkeys were released in suitable riparian habitat along the Boise, Payette, Snake, and Weiser rivers, and tributaries of the South Fork of the Clearwater River. In 1985 eastern wild turkeys were released near Dworshak Reservoir. These 3 subspecies have since been translocated across the state and have readily integrated; consequently, whether pure genetic strains of any of these subspecies persist in Idaho is unclear.

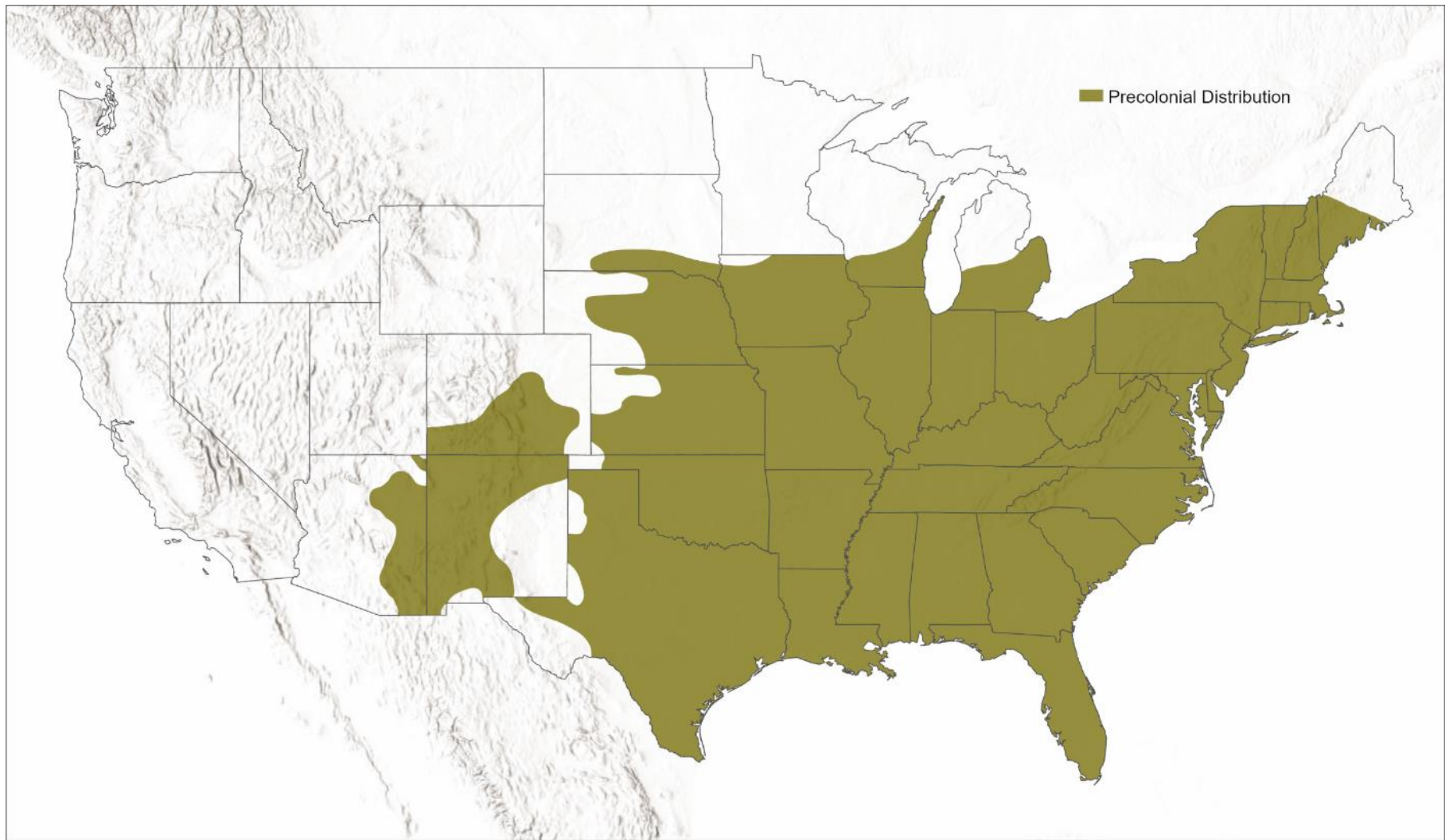


Figure 1. Approximate precolonial distribution of wild turkey in the United States. Adapted from Williams (1981).

Following introduction, turkey populations expanded rapidly (Hemker 1997). -At the turn of the twenty-first century, wild turkeys occupied much of the available habitat in Idaho, due in large part to a successful trapping and translocation program, and through natural range expansion (Fig. 2). Today, Idaho wild turkey populations are estimated between 26,000 and 55,000 birds (Eriksen et al. 2015), with hunting opportunities in all 7 regions.

Historically, wild turkeys in Idaho primarily occupied habitat administered by state and federal agencies (Rybarczyk and Connelly 1985). However, as populations have grown and expanded their distribution, some birds have become more reliant on private lands to meet their life cycle needs. This situation creates human-wild turkey conflicts in some areas of the state, particularly where winter habitat is limited. In these locations, wild turkey management is largely predicated on landowner tolerance and Department efforts to manage potential and realized conflicts. To address these conflicts, the Department has provided additional hunting opportunities through general fall and fall-winter depredation hunts, distributed kill permits, and trapped and translocated nuisance birds.

Although no recent surveys have specifically estimated economic impacts of wild turkey hunting in Idaho, Southwick Associates (2003) demonstrated significant economic impacts from spring wild turkey hunting at national and state levels, including Idaho specific hunt data. Based on this survey (adjusted for inflation) each wild turkey hunter in Idaho spends an average of \$1,318/season on equipment and trip expenses. If extrapolated to the estimated 20,000 spring wild turkey hunters in Idaho during 2020, spring wild turkey hunters alone spent approximately \$26.4 million. On average, each dollar spent by spring wild turkey hunters generates approximately \$3.39 in economic activity. Given the direct spending by wild turkey hunters and associated multiplier effect, wild turkey hunting clearly contributes significantly to the Idaho economy.

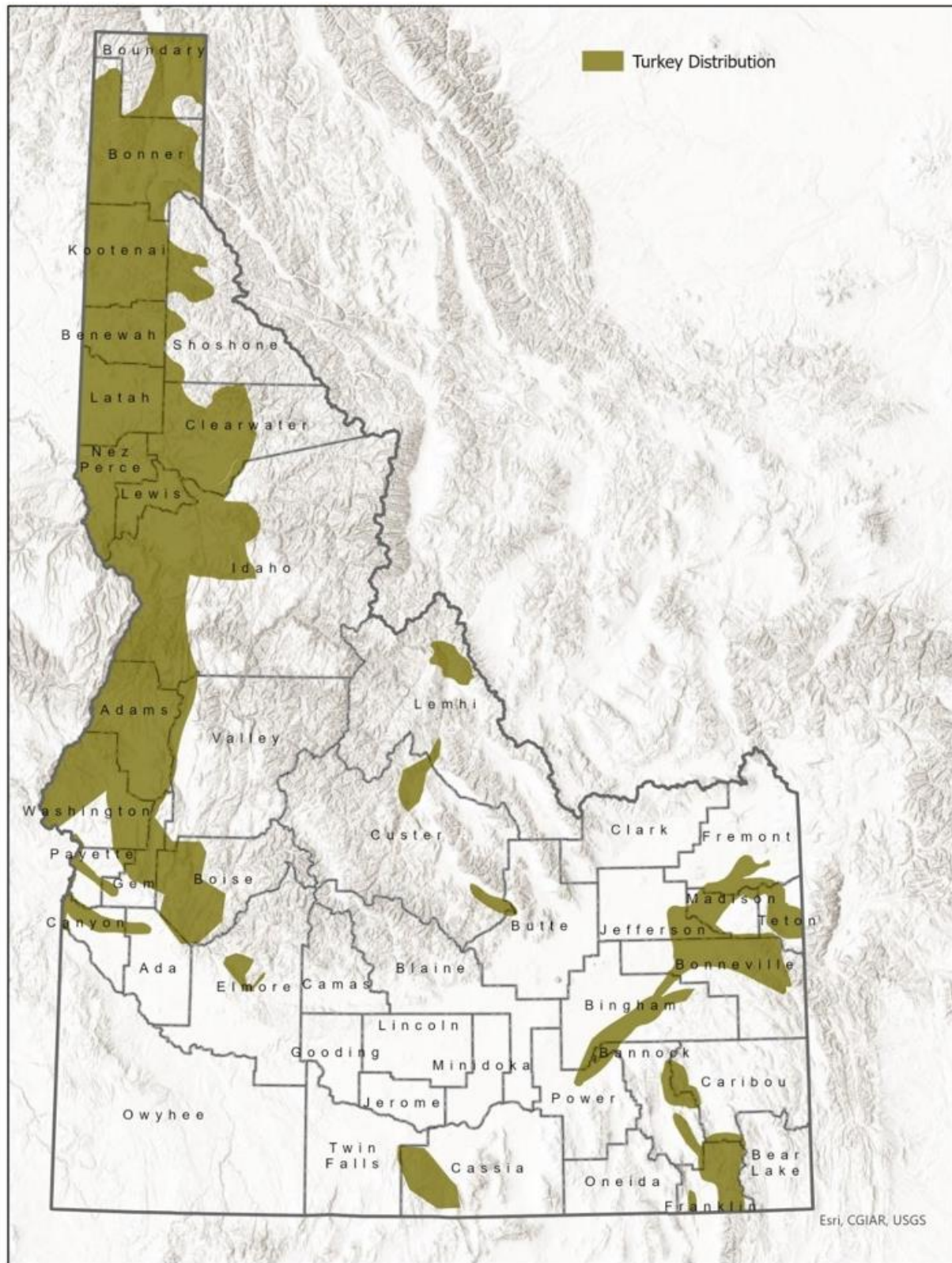


Figure 2. Current wild turkey distribution in Idaho.

Purpose

Idaho Code 36-103 establishes statewide policy for wildlife, and can be paraphrased as: all wildlife will be preserved, protected, perpetuated, and managed to provide continuous supplies for hunting, fishing, and trapping. The Idaho Fish and Game Commission (Commission) is charged with administering state wildlife policy and provides direction to the Department.

Idaho Code 67-1903 requires state agencies to develop strategic plans that express how they will meet core mission requirements. Plans must identify outcome-based goals and performance measures.

The Plan will provide guidance to the Department to implement management actions that will enhance wild turkey habitat and populations, and provide recreational hunting opportunities that reflect hunter preferences. The Plan identifies issues that affect wild turkeys and their management and will function as the action plan to guide overall direction for wild turkey management during the next 6 years (2022–2027). The Plan incorporates Commission policy and provides management direction to the Department. This Plan will guide the Department in annual work plan development and program prioritization, and provide guidance on rule development.

Plan Development

The Department has not previously developed a statewide wild turkey management plan. However, there was a section devoted to wild turkey management in the Upland Game Species Management Plan 1991–1995 (IDFG 1991), which focused on habitat, and biological and social issues associated with wild turkeys in Idaho.

In 2012 Department staff developed a wild turkey management plan specific to Southwest Region (IDFG 2012). Staff referenced results of a 2003 survey of spring wild turkey hunters (Responsive Management 2003) and enlisted assistance from representatives of the National Wild Turkey Federation (NWTf) and Ada County Fish and Game League to develop the plan (IDFG 2012). The goal was to develop a comprehensive plan which provided direction for translocations, supplemental winter feeding, managing conflicts, population monitoring, and harvest management. Furthermore, the plan was intended to provide the foundation for other regions to develop their own wild turkey plans, which could be compiled into a statewide planning document (IDFG 2012).

In recent years, wild turkey population size and distribution, social tolerance, and hunter participation have continued to evolve throughout Idaho. Consequently, development of statewide guidance to optimize wild turkey management is necessary.

Public Involvement and Outreach

To better understand views of Idaho wild turkey hunters and inform management guidance for this planning process, the Department conducted an opinion survey of wild turkey tag buyers during June 2020 ([See Idaho Wild Turkey Hunter Opinion Survey 2022 Appendix A](#)). The sampling frame for this opinion survey was comprised of individuals who purchased a wild turkey tag from 2016 to 2020, and for whom the Department had a valid email address. The sampling frame was defined as:

- Anyone (i.e., resident and nonresident) who purchased a wild turkey tag during 2016–2020;

- Anyone who was 18 or older at the time of license purchase; and
- Anyone who had provided an email address to the Department.

An email requesting participation in the opinion survey was sent to nearly 43,000 individuals, followed by 2 reminder emails requesting participation. In total, 6,944 people completed the survey, of which 6,065 (87%) had hunted wild turkeys. Of those respondents who had hunted wild turkeys, 5,653 Idaho residents and 412 nonresidents, 94% reported hunting wild turkey in Idaho.

Mean age of respondents who said they hunted was 49.2 years, and 93% were male. Nearly 88% of respondents hunted wild turkeys in Idaho within the last 5 years, and almost one-half of respondents hunted wild turkeys in Idaho < 5 years. Just under 7% of respondents reported membership in NWTF.

Respondents identified spring general seasons as the most preferred (72.4% listed as favorite) wild turkey hunting opportunity; 58% participated in spring 2020 seasons, whereas 54% participated in fall 2019 seasons. On average, hunters spent 5.24 days hunting wild turkeys during spring 2020 seasons and 5.02 days hunting during fall 2019 seasons. Most wild turkey hunters hunt in Southwest (32%), Clearwater (29%), and Panhandle (24%) regions. Although Clearwater Region hosts 29% of Idaho wild turkey hunters, only 19% reside there; 40% claim residence in Southwest Region and 21% in Panhandle Region.

When asked to rate overall quality of their spring wild turkey hunting experience, >70% of hunters reported good to excellent hunting. Sixty-three percent of spring wild turkey hunters primarily hunted on public land in Idaho. Nearly 33% primarily hunted private lands without a fee, and 1.8% primarily hunted Access Yes! properties.

Importance ratings of hunt-specific experiences suggested “access to public lands” and “hearing turkeys” were the two most important experiences for spring wild turkey hunters; “hiring a licensed guide” was least important. Other factors considered very important by hunters were to “see turkeys,” “not be interfered with by other hunters,” and “call turkeys in.”

When asked to rate overall quality of their fall wild turkey hunting experience, >70% of hunters reported good to excellent hunting. Nearly 52% of fall wild turkey hunters primarily hunted on public land in Idaho. Just over 44% primarily hunted private lands without a fee, and 1.3% primarily hunted Access Yes! properties.

The two most important experiences for fall wild turkey hunters were “access to public lands” and “seeing turkeys”; “hiring a licensed guide” was least important. Hunters also placed importance on being able to “hear turkeys” and “not be interfered with by other hunters.”

When asked about importance of a variety of management activities, wild turkey hunters identified “providing spring hunting opportunities” and “providing youth hunting opportunities” as the two highest priorities on which the Department should focus. Improving habitat on public lands was also identified as a very important management activity. “Conducting classes on how to hunt wild turkey” was the least important management activity.

WILD TURKEY ECOLOGY

Description

Wild turkeys are the largest gallinaceous, or chicken-like, game birds in North America. They are heavy-bodied with strong legs and feet for digging and scratching; short, strong beaks for pecking; and short, rounded wings for brief rapid flight to escape predators.

The wild turkey is sexually dimorphic. Adult males (toms or gobblers) are larger and taller than females (hens), generally weighing 17 to 25 pounds and standing approximately 40 inches tall. In contrast, adult hens weigh approximately 8 to 12 pounds and stand approximately 30 inches tall (Mosby and Handley 1943, Hewitt 1967). Toms have a dark, metallic black appearance, whereas hens have a duller, brownish to buff appearance. As juvenile males (jakes) mature, they develop a bony growth on the back of the lower leg called a spur, and grow a hair-like fiber on the upper midline of the breast called a beard. Both spurs and beards are generally absent in females (Pelham and Dickson 1992).

Reproduction

Wild turkeys are polygamous: one male mates with several females. During spring males vocalize (gobble) and display (strut) to attract receptive females. While hens begin nesting and egg-laying activities, toms seek additional mates. In Idaho, wild turkeys initiate nests as early as mid-April, but most nests are initiated between late-April and mid-May. Average clutch size ranges from 7.9 to 10.9 eggs (Edelmann 1995, O'Neill 1998). Egg laying takes approximately two weeks for a full clutch of 10 to 12 eggs (Healy 1992), and incubation typically lasts approximately 26 days. Poults can feed on their own and follow the hen within 24 hours of hatching (Healy 1992).

Nesting success is one of the primary factors affecting annual population fluctuations in wild turkey populations. Nesting success in the western U.S. is highly variable and ranges 50–100% (Vangilder 1992, Hughes et al. 2007, Lehman et al. 2008). In Idaho, Edelmann (1995) and O'Neill (1998) reported an average nesting success of 66%, and success was similar in forested and mountain-shrub habitats.

Survival and Mortality

Wild turkey survival varies among age and sex classes. Poults are especially vulnerable during the first 2–4 weeks after hatching because they are unable to roost off the ground (Healy 1992, Vangilder 1992); survival during this time period ranges 27–44% (Vangilder 1992). Poult mortality most commonly results from predation (Speake et al. 1985) or periods of cold, wet weather (Healy and Nenno 1985).

Hens are most vulnerable to predation during incubation and poult-rearing (Ransom et al. 1987, Miller and Leopold 1992). Vangilder (1992) and Rumble et al. (2003) reported an average annual survival rate of 65% for hens across 10 studies.

Toms are more likely to be preyed upon when gobbling or strutting during spring breeding season (Miller and Leopold 1992). Spring hunting season is a significant source of mortality for toms. Flake et al. (2006) reported spring harvest was responsible for 36–62% of male wild turkey mortalities across several states.

Weather

Precipitation is the most important climatic factor limiting wild turkey distribution in North America (Healy 1992). By and large, wild turkeys are limited by extremes; persistent deep snow cover limits movement and access to food, whereas inadequate precipitation limits growth of roost trees, which provide security from predators and inclement weather (Wakefield et al. 2020). Furthermore, extreme local weather variation can have significant effects on wild turkey survival and productivity during key periods of the year. Rain and low temperatures were negatively correlated with brood counts in Pennsylvania (Latham 1958). Healy and Nenno (1985) found prolonged cold and wet weather during egg laying had no effect on hatch rates, but observed a reduction in poult survival as these weather conditions persisted. Severe winter weather appears to reduce subsequent egg hatching success and recruitment of young (Porter et al. 1983), and late snows may reduce breeding in Merriam's wild turkeys (Reeves 1950, Jonas 1968). Beasom and Pattee (1980) reported droughts halted reproduction in Rio Grande wild turkeys in Texas.

Predation

Predation impacts both sexes and all age classes of wild turkeys (McRoberts et al. 2020). Miller and Leopold (1992) reviewed 9 wild turkey survival studies and reported predation was responsible for 29–100% of mortalities. However, no known predator focuses exclusively on wild turkeys, suggesting most predation occurs opportunistically (Miller and Leopold 1992). Generally, females are more susceptible to predation than males, and most adult female mortality occurs during nesting periods, which impacts both female survival and recruitment (Hughes et al. 2007, McRoberts et al. 2020). Nest predation is commonly identified as the primary cause of nesting failure for wild turkeys (Hughes et al. 2007, Byrne and Chamberlain 2015). In two separate studies in southwest and west-central Idaho, nest predation was responsible for 19% and 31% of nest failures (Edelmann 1995, O'Neill 1998). Adult male wild turkeys are less vulnerable to predators due to their larger body size and behavior; males rarely spend the night on the ground, unlike nesting females or females with young poults (Hughes et al. 2007). In a summary of impacts of predation on wild turkeys, Hughes et al. (2007) reported raccoons (*Procyon lotor*) were the most commonly identified nest predator, whereas hunting was the major cause of mortality for adult males.

Diseases and Parasites

In general, diseases of importance to the domestic poultry industry constitute the majority of pathogens investigated in wild turkeys. The Department monitors several diseases for occurrence and prevalence including mycoplasmosis, salmonellosis, highly pathogenic avian influenza, and virulent Newcastle disease. In Idaho, data on wild turkey health is limited to samples (~700) collected from birds included in trap and translocation operations, and show a very low prevalence of diseases or parasites (T. Hebdon, Idaho Department of Fish and Game, personal communication).

The Department has received numerous complaints from landowners about potential for disease transmission (i.e., coccidiosis), from wild turkeys to cattle, through wild turkey feces. These complaints typically occur during winter and early spring when wild turkeys congregate in large flocks at lower elevations in livestock feeding areas. Although there has been no evidence of disease transmission from

wild turkeys to livestock, the Department will opportunistically test for presence of coccidia in wild turkeys when there is a reasonable concern.

When wild turkeys are translocated, pathogens may be transported to novel environments or populations of concern. Alternatively, naïve animals may contract disease when exposed to novel pathogens after relocation. Therefore, disease surveillance is an important component of all translocation projects, and is recommended to avoid potential spread of disease to new areas or species of concern. Guidelines for health screening and sampling of galliforms were developed by the Western Association of Fish and Wildlife Agencies (WAFWA 2019).

HABITAT REQUIREMENTS

Wild turkeys are adaptable to a broad range of habitats and environmental conditions. Habitat within their home range typically includes a diverse landscape with a wide variety of plant species in different successional stages (Dickson et al. 1978). Home range size and habitat use varies by season and habitat quality; weather conditions (e.g., snow depth and duration) seasonally influence wild turkey home range size (Nguyen et al. 2004). Diverse habitats provide appropriate cover and food resources wild turkeys need throughout the year. A variety of available food sources likely ensures adequate resources when overall abundance and availability of food is low (Dickson et al. 1978). Wild turkeys are typically considered habitat generalists (Hurst 1992). However, there are 3 periods with distinct habitat needs: nesting, brood-rearing and summer, and fall-winter.

Nesting

Wild turkeys use both forested and non-forested habitats for nesting. Forested habitats provide important nesting habitat for Merriam's wild turkeys (Mackey 1982, Lutz and Crawford 1987, Edelman 1995). Merriam's wild turkeys also nest in non-forested habitats, including grassland or clearings (Wertz and Flake 1988) and shrub habitats (Hengel 1990, Edelman 1995).

Nests are found in undergrowth which provides screening cover or visual obstruction for the nest and hen, but still allows for detection of predators. Nests are typically located at sites with more shrub cover than non-nest sites (O'Neill 1998). Dead or downed woody debris (e.g., logging slash), dense shrubs, or other visual obstructions such as bases of large standing trees, provide screening cover for nesting wild turkeys (Petersen and Richardson 1973, Jones 1981, Streich et al. 2015), and allow hens to identify potential predators or other dangers (Healy 1992, Porter 1992). In west-central Idaho, Edelman (1995) found 90% of nests were <2 m from an overstory tree, and the majority of nests were within mixed-conifer forest. Hens often select nest sites with 50–90% canopy cover in forested habitats (Rumble and Hodorff 1993, Mollohan et al. 1995). In southwestern Idaho, O'Neill (1998) found greater lateral concealment (i.e., percent visual obstruction <1.0 m) at mountain-shrub nest sites than at forested nest sites, which presumably offsets reduced availability of tree canopy cover at non-forested nest sites.

Brood-rearing and Summer Habitat

Quality brood-rearing habitat consists of open, grassy areas with scattered trees. These areas provide abundant insects in tall herbaceous ground cover (Healy 1985, Mollohan et al. 1995), and are found in

close proximity to escape cover (Mackey 1982, Porter 1992, Hoffman et al. 1993). Grasses and other non-woody vegetation provide seeds and other forage for hens, and abundant insects and spiders to meet the high protein demands of poults (Marsden and Martin 1955). Brood hens select for areas with herbaceous ground cover heights ranging 20–30 cm (Porter 1980, Campo et al. 1989), which provide optimal visual concealment for young and allow hens to observe and detect predators. Visual ground concealment is critical to poult survival, as they typically roost with hens on the ground for the first 14–20 days. After poults begin to fly, overstory trees provide additional escape and thermal cover for poults (Porter 1992). O'Neill (1998) found overstory trees adjacent to foraging areas were important to wild turkeys in Idaho. Edelmann (1995) reported 97% of brood locations in west-central Idaho, regardless of cover type, contained ≥ 1 overstory tree.

Winter

Critical components of wild turkey winter habitat are food resources and roosting cover (Porter 1992). Wintering wild turkeys are highly dependent on mast producing trees and shrubs, but also feed on other native food sources and agricultural crops, particularly within non-native habitats. In Idaho, winter diets generally consist of pine seeds (*Pinus* spp.), grass and grass seeds, and persistent fruits such as hawthorn (*Crataegus douglasii*) (J. O'Neill, Idaho Department of Fish and Game, personal communication). The majority of known wintering sites for Idaho wild turkeys occur at lower elevations, and on private lands associated with riparian habitat and livestock operations.

Roosting

Roosting substrate is a critical component of wild turkey habitat. Species of tree used for a roost is not as important as characteristics of an individual tree; roost trees must provide thermal protection and predator escapement. Large mature trees with horizontal branching and easy access to the canopy typically provide these needs. Canopy coverage of approximately 50–60% has been identified as important to roost-site selection (Rumble 1992, Edelmann 1995). Although important in every season, roost trees are extremely critical in winter and may be a limiting factor for wild turkey populations in some regions of Idaho. Ponderosa pine is an important component of roosting habitat for Merriam's wild turkeys in southwestern Idaho. O'Neill (1998) reported ponderosa pine was exclusively used for roosting in winter, and accounted for 71% of available winter roost habitat, but only 30% of total year-round available roosting habitat. In west-central Idaho, Douglas-fir (*Pseudotsuga menziesii*) and other conifers may serve as substitute roosting sites in areas where ponderosa pine is limited (Edelmann 1995). Cottonwood (*Populus balsamifera* spp.) galleries can also serve as roosting habitat, particularly in riparian corridors.

MANAGEMENT ISSUES

The Department has identified several issues that impact wild turkey populations and management in Idaho. These issues can be subdivided into 5 broad categories for the Plan:

- Hunting opportunities
- Population management and monitoring
- Nuisance and depredations
- Habitat improvement and management
- Hunting access

HUNTING OPPORTUNITIES

Season Dates and Lengths

Idaho's first wild turkey hunt was a 16-day controlled fall hunt in 1967; 104 hunters harvested 17 turkeys (IDFG 1968). The first general season turkey hunt in Idaho, a 2-day season, occurred the following fall; 121 hunters harvested 9 turkeys. From 1976 to 1981 fall general seasons opened on Saturdays in mid- to late September and lasted 16 days. Fall general seasons were reinstated in 1998. Appendix [BC](#) chronicles Idaho wild turkey hunting seasons through time.

Spring seasons began in 1974, when a 9-day general season was held in Idaho from late April to early May. Seasons opened on either a Saturday or Wednesday and this hunt structure continued for nearly a decade. From 1984 to 1995 spring general wild turkey season length was gradually expanded from 16 to 37 days. During this same time period, spring controlled hunts were also implemented.

In spring 1996 the Department moved the general spring season opener to 8 April. In 1999 the Department adopted a standard general spring turkey season, 15 April to 25 May, which remains in place today. By 2005 some form of wild turkey hunting was available in all 7 regions of the state.

The first general spring youth-only season was held in 2004. The season was 2 days long and occurred on the weekend prior to the general wild turkey opener. In 2008 the youth season was moved to the 3 days prior to the general season. Since 2010 a 7-day youth season, 8–14 April, has immediately preceded the general spring season.

Bag Limits

The bag limit was 1 wild turkey/year until a fall permit and a second spring tag were added in 1998 and 1999, respectively. The general tag was valid from 15 April through 25 May and the second tag from 10 to 25 May. The daily bag limit of 1 bird and annual limit of 3 wild turkeys remained.

In 2000 depredation hunts were added and a fall general season was reinstated. The following year 5 different tags were available: general spring, second spring, spring controlled hunt, general fall, and fall controlled hunt.

In 2002 second spring and fall general tags were combined to make a late spring-fall general season tag. This tag was valid for either late spring or fall seasons, and the tag fee was reduced. The daily bag limit remained 1 bird, with no more than 3 birds/year, but allowed for 2 birds to be taken during fall seasons. In 2003 another change allowed for late spring tags to be used as early as May 1; which continued through 2010.

In 2004 the tag structure was modified to include 2 types of tags: general and extra tags. Hunters could purchase 1 general and 2 extra tags. Only 1 extra tag could be purchased during spring. The bag limit was 1 bird/day, with no more than 2 birds in spring or fall, and no more than 3 birds/year.

In 2008 special unit tags (SUTs) were created to address nuisance wild turkey issues in Panhandle Region. Up to 3 additional tags could be purchased at a reduced price and were valid only during fall general season in specific GMUs. This allowed the annual limit to increase to 6 birds. In 2010 the waiting period for use of an extra tag in spring season was eliminated; a hunter could now use either a general or extra tag any time during spring season. The daily bag limit remained 1 bird until 2018, when it changed to the number of valid tags possessed. Hunters could harvest 2 birds/day during spring season, up to 3 birds/day during fall general season, and up to 6 birds/day during fall general season in Panhandle Region special unit hunts.

Current Seasons

Current season structures consist of a combination of general and controlled hunt opportunities throughout the state. The Department goal is to maintain general seasons where possible, and to optimize hunting opportunity. General hunt opportunities are offered in areas where wild turkeys are widespread and common, whereas controlled hunts exist in areas where wild turkey populations are more localized and comparatively less abundant, and cannot withstand general season harvest over a sustained period of time.

Only bearded wild turkeys may be harvested in spring, whereas harvest of any wild turkey is allowed during fall seasons. There are currently two types of tags available, general and controlled hunt tags. The Commission has authority to reduce price of tags. Specifically, the Commission reduced the price of additional general tags (up to 2) after purchase of a general turkey tag each year. They also reduced the price of general turkey tags for use during general fall seasons in specified units in Panhandle Region (i.e., SUTs). Hunters may purchase no more than 1 general, 2 reduced price, and 3 special unit tags. General tags and reduced price tags may be used in any spring or fall general hunt. However, no more than 2 tags may be used for any spring general season hunt. Three special unit tags may be purchased and used during fall general season in GMUs 1–7 and 9.

Spring general seasons occur from 15 April to 25 May in 42 GMUs (all or portions of units) in Panhandle, Clearwater, Southwest, and Southeast regions (Fig. 3). Additionally, all GMUs with a spring general season include a 7-day, youth-only season 8–14 April. Currently, spring controlled hunts occur in Southwest, Magic Valley, Southeast, Upper Snake, and Salmon regions.

General fall seasons currently exist in Panhandle, Clearwater, Southwest, and Southeast regions and have variable season dates, opening as early as 30 August and closing as late as 31 January, to allow flexible population management strategies. Currently there are 35 units (all or portions of a unit) where

a fall general season is offered (Fig. 4). Fall controlled hunts are offered in Southwest, Upper Snake, and Salmon regions with start and end dates similar to general fall seasons; fall hunts include all or portions of spring controlled hunt units.

Landowner permission hunts were introduced during 2020 and are directed at harvesting nuisance and depredating wild turkeys. Currently there are 12 landowner permission hunts; 11 occur during fall and run from 1 September through the end of February. Although the majority of these hunts allow harvest of any wild turkey, two are limited to harvest of beardless wild turkeys. One additional hunt occurs during spring and allows for harvest of hens.

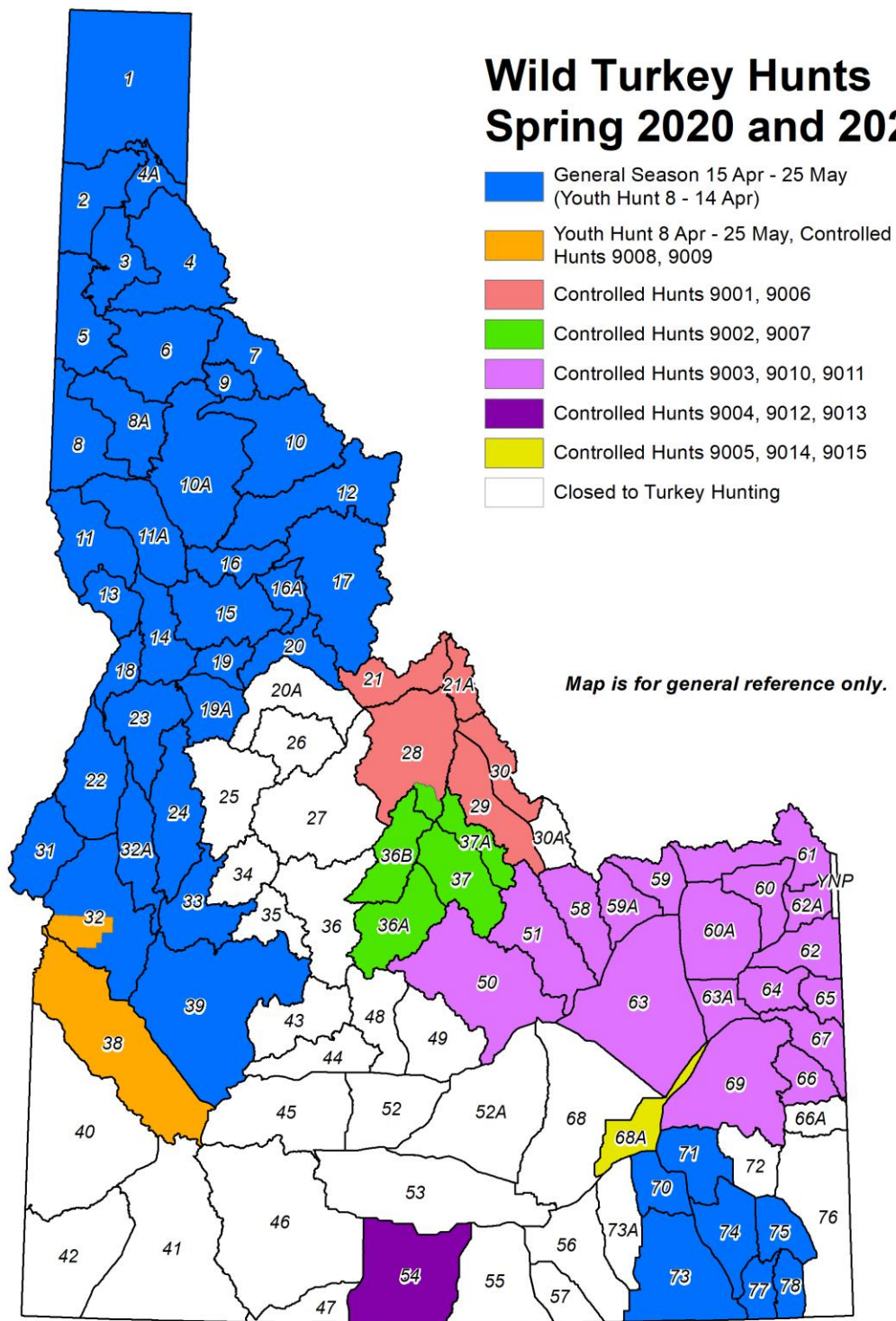


Figure 3. Spring wild turkey game management units and hunting opportunity in Idaho, 2020–2021.

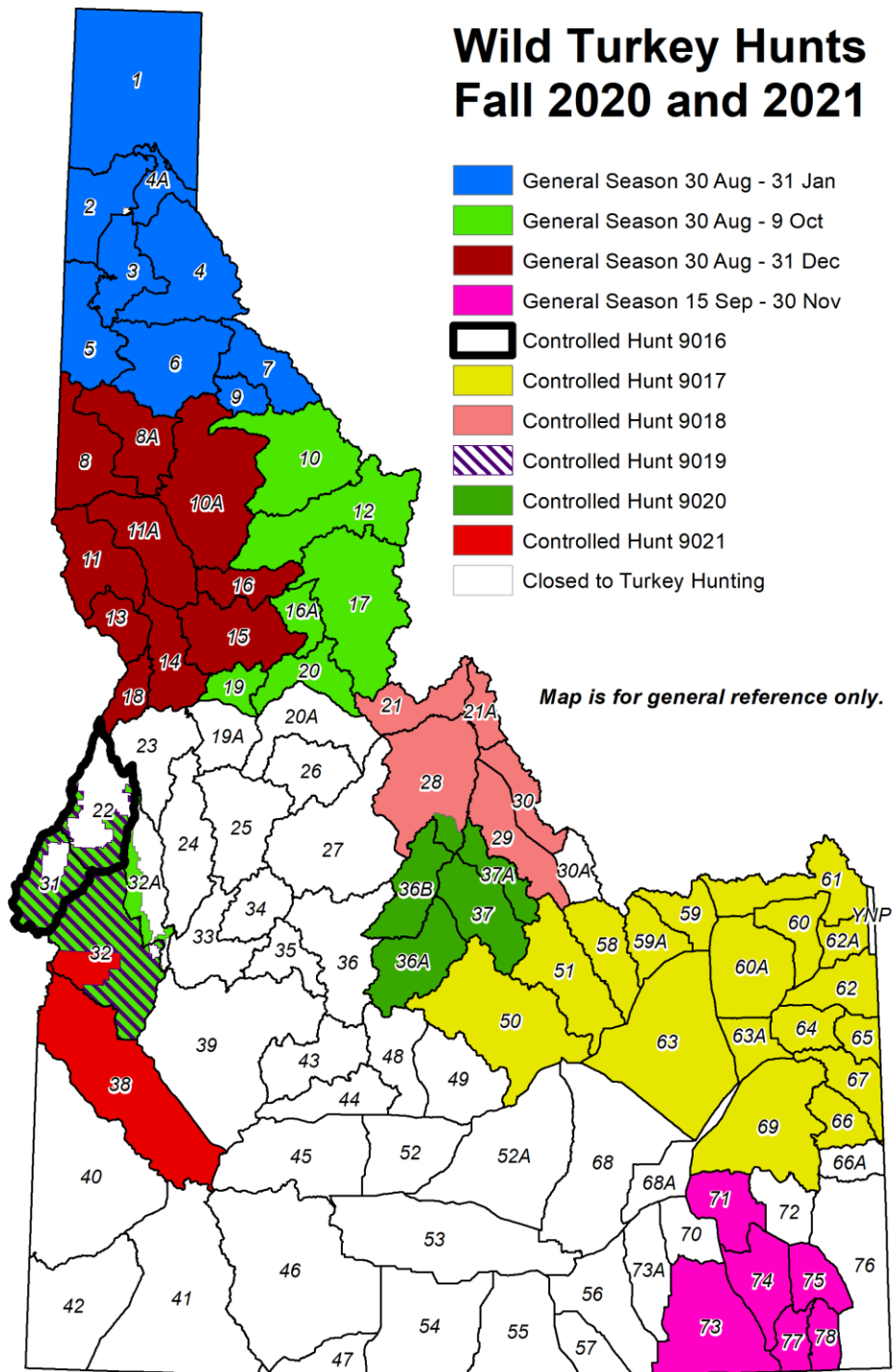


Figure 4. Fall wild turkey game management units and hunting opportunity in Idaho, 2020–2021.

MANAGEMENT DIRECTION

| MANAGEMENT GOAL: Maintain wild turkey populations to provide high-quality hunting opportunities, maximize hunting opportunity where possible, and implement harvest strategies to reduce nuisance and depredation issues on private land. | |
|---|---|
| Objectives | Strategies |
| Implement management activities designed to establish and maintain self-sustaining wild turkey populations. | <p><u>Explore opportunities to expand or establish wild turkey populations in areas that meet criteria for translocations and habitat suitability (Appendix E).</u></p> <p>Continue to use general, controlled, and landowner permission hunts to maintain and manage wild turkey populations.</p> <p>Maintain liberal general spring season length and bag limits, where applicable.</p> <p>Continue to limit spring hunting to take of only bearded birds, except in landowner permission hunts to address specific nuisance issues.</p> <p>Offer youth-only hunting opportunities to recruit new hunters and avoid adult competition.</p> <p>Continue to use either-sex fall hunting opportunities to maintain or reduce populations, where appropriate.</p> <p>Implement either-sex winter hunting opportunities to maintain or reduce populations, where appropriate.</p> <p>Provide controlled hunt opportunity in areas where turkey numbers are limited.</p> <p>Implement depredation hunts to reduce human-wild turkey conflicts and depredations.</p> |

POPULATION MANAGEMENT AND MONITORING

Monitoring populations is a basic element of wild turkey management. Managers may use harvest data, abundance information, or density estimates over broad areas to manage populations. Population monitoring provides insight into population dynamics, improved evaluation of management effectiveness, and early warning of negative population change (Bibby et al. 2000, Gibbs 2000, Lancia et al. 2005, Butler et al. 2007a). However, biological and ecological habits of wild turkeys, and the variety of habitats they occupy make standardized monitoring challenging (Wakeling et al. 2019).

While there is no rangewide protocol standardized method to monitor wild turkey populations, the NWTF and WAFWA are working to standardize monitoring methods to allow for comparison of population data collected in different locations. In many states, wild turkeys are primarily monitored using harvest metrics. However, other monitoring methods are available to obtain an index to population size or a population estimate. Managers need to evaluate a number of considerations (e.g., monitoring objective; wild turkey behavior, distribution, and habitat characteristics; staff time and financial constraints) to select the most appropriate monitoring method to meet their management goals.

A variety of methods are available to monitor populations. These include statistical population reconstruction, capture-mark-recapture, direct counts, transect surveys, aerial surveys, occupancy modeling, camera trapping, and citizen science. Some monitoring methods are more suitable than others, depending on intended products. Index-based techniques can indicate trends in wild turkey populations (Schwertner et al. 2003); however, these designs are most appropriate for detecting drastic changes (Butler et al. 2007a). Indices also have poorly understood relationships to true abundance (Healy and Powell 2000). Alternatively, population estimation methods must be statistically valid and are often expensive, labor intensive, and most appropriate at smaller spatial scales. Managers need to select methods that best suit their monitoring goals. Appendix C includes a summary of population monitoring techniques for managers to consider.

Harvest Monitoring

Wild turkey harvest has been monitored in Idaho since the late 1960s. Various techniques to collect harvest data have been employed, including check stations, voluntary hunter reports, and surveys via mail, email, and telephone.

Since 1999 the Department has used consistent harvest survey methodology. Surveys are mailed to a random sample of wild turkey tag holders. If a response is not received via mail, a telephone survey crew attempts to contact individuals directly. Results from these survey efforts yield estimates of number of hunters, birds harvested, and effort (i.e., days hunted) by GMU or controlled hunt area. Estimates of success and harvest trends can be used as a population index to monitor trends through time.

Harvest rates are believed to increase or decrease as population size changes (Wakeling et al. 2019). Hunter effort (e.g., catch-per-unit-effort) may be useful as a general index to turkey abundance over time, as hunters seem to adjust time spent hunting as wild turkeys become more or less abundant

(Strickland et al. 1994). However, there may be a lag of up to 2 years between perceived changes in wild turkey populations and hunter response (Sandrini 2003).

Participation and Harvest

Over the last 10 years an average of 12,400 hunters harvested an estimated 4,400 wild turkeys during spring seasons (Fig. 5). During spring 2020 the highest harvest occurred in Panhandle and Clearwater regions (Fig. 6). During the same time period hunter success (birds harvested/hunter) was 32% for general hunts, and 42% for controlled hunts. During spring 2020 the highest hunter success rates were achieved in Clearwater Region (Fig. 7).

From 2010 to 2019, an average of 4,200 hunters harvested an estimated 1,900 wild turkeys during fall seasons (Fig. 8). Hunter success was 45% for general hunts and 55% for controlled hunts.

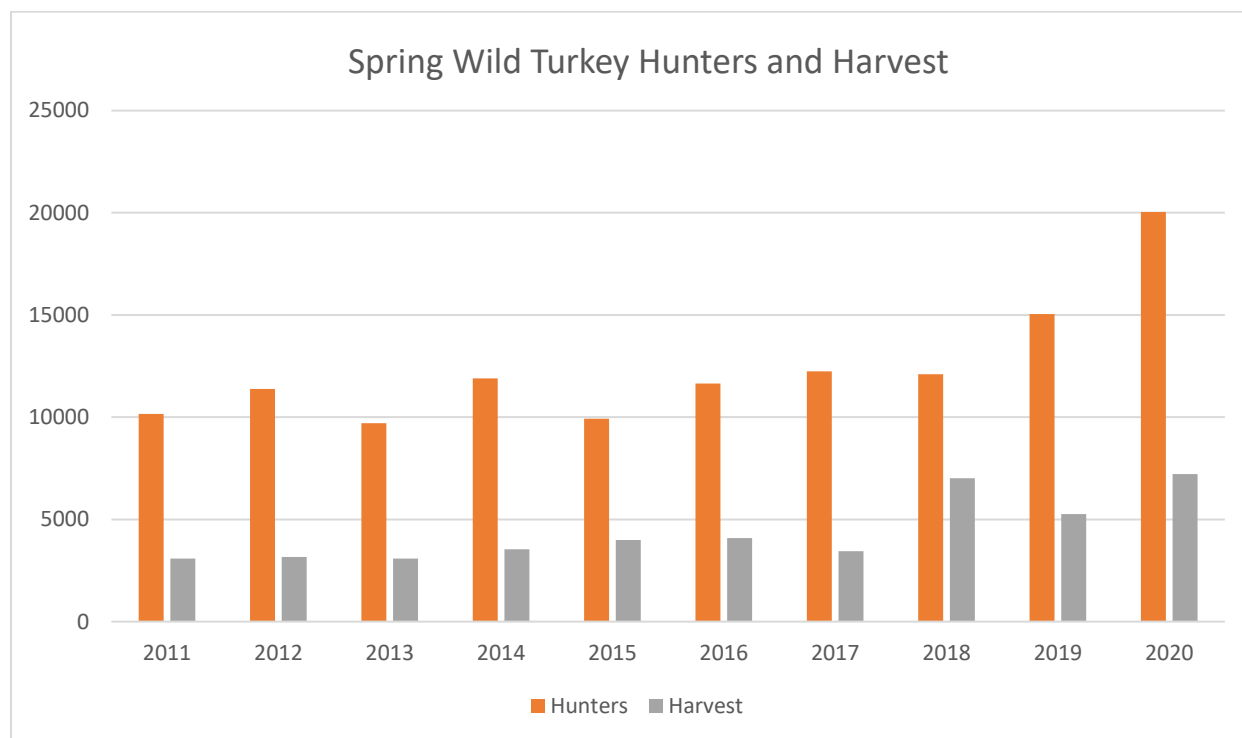


Figure 5. Estimated number of hunters and wild turkeys harvested during spring seasons in Idaho, 2011–2020.



22

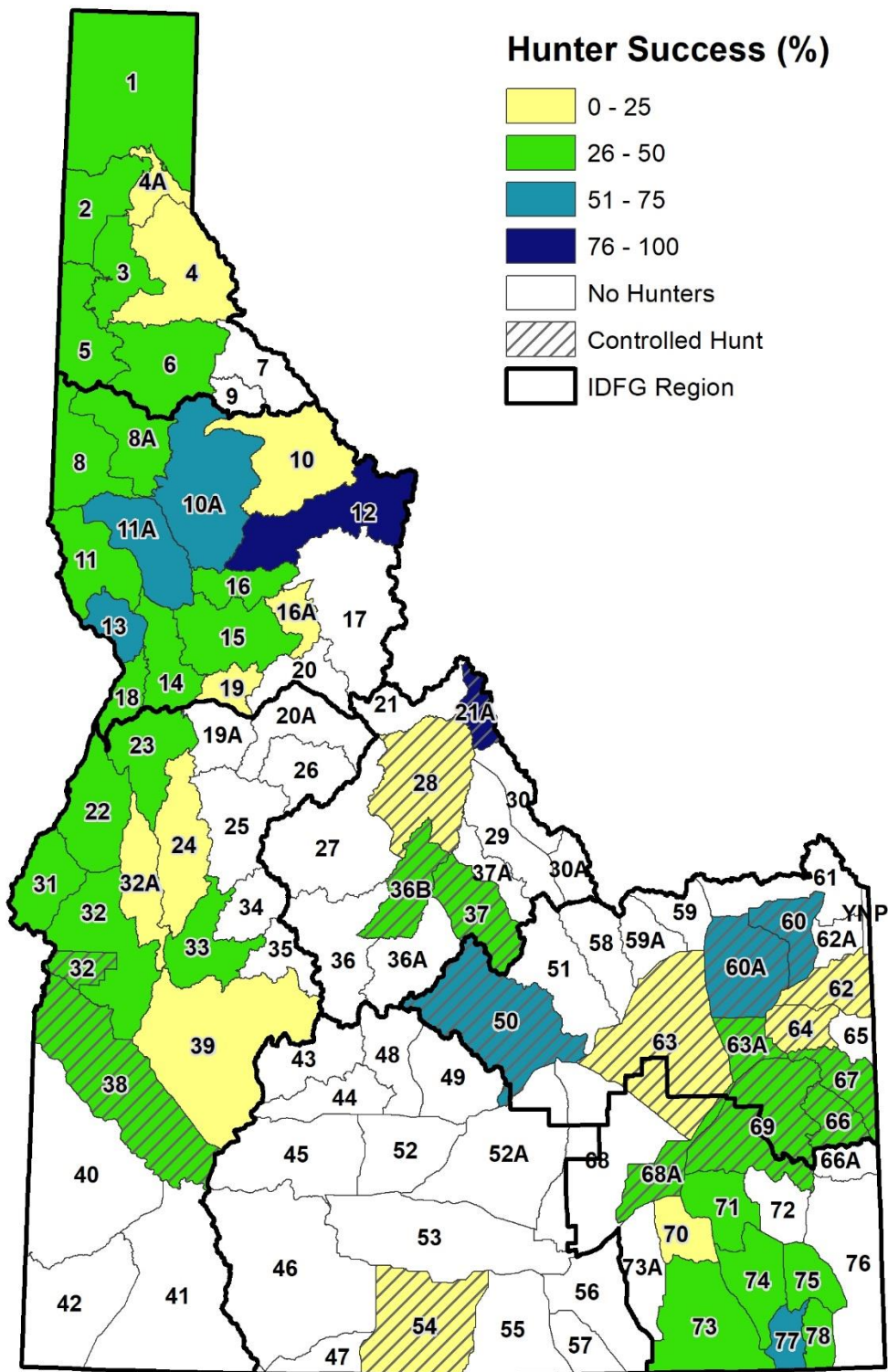


Figure 7. Estimated Idaho spring turkey hunter success by Game Management Unit, 2020.

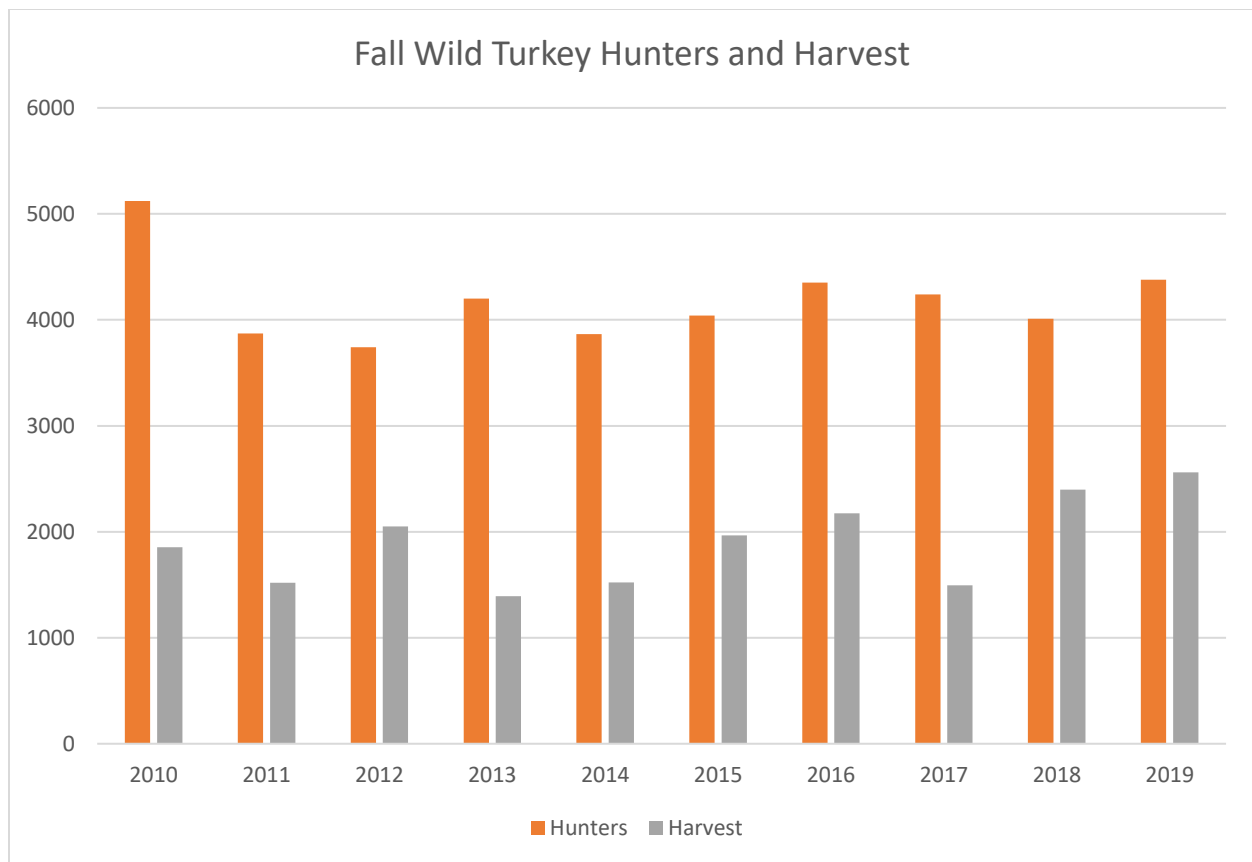


Figure 8. Estimated number of hunters and wild turkeys harvested during fall seasons in Idaho, 2010–2019.

MANAGEMENT DIRECTION

| MANAGEMENT GOAL: Develop a strategy to guide wild turkey harvest management decisions. | |
|---|--|
| Objectives | Strategies |
| Evaluate criteria to guide harvest management decisions by spring 2023. | <p>Develop wild turkey regulation options that correspond to population levels (i.e., liberal options would apply to high populations, and conservative options to low populations).</p> <p>Identify harvest, nuisance and depredation, and demographic thresholds to establish regional harvest levels.</p> |

| MANAGEMENT GOAL: Improve population monitoring and reporting for wild turkey to provide reliable information on population trends to wildlife managers, hunters, and the general public. | |
|---|--|
| Objectives | Strategies |
| Investigate need for improved methods to annually monitor wild turkey populations by spring 2024. | <p>Identify and evaluate potential improvements in harvest data collection and reporting to address knowledge gaps and inform management decisions.</p> <p>Explore alternative methods of population monitoring.</p> |
| Improve current methods used to inform hunters of wild turkey population trends by fall 2022. | Develop education and outreach materials that describe factors that influence wild turkey populations. |

NUISANCE AND DEPREDACTIONS

In Idaho, private lands play a significant role in wild turkey population management. Wild turkeys utilize both native and agricultural habitat resources depending on availability. Agricultural practices provide food resources and additional nesting, brood-rearing, and other critical seasonal habitat needs. Grain and hay fields, undeveloped field edges and fence rows, pasturelands, timber lands, irrigation ditch banks, and Conservation Reserve Program (CRP) fields can all provide additional food and cover resources. As the human population in Idaho continues to grow, maintaining, managing, and improving wild turkey habitat will be increasingly important to 1) optimize public hunting opportunity; 2) balance interests of hunters, wildlife enthusiasts, private landowners, and producers; and 3) simultaneously mitigate human-wild turkey conflicts.

Wild turkey populations are considered both desirable and undesirable by various segments of the public. Over time, wild turkey populations have expanded into rural and agricultural areas, and adapted to these settings. Every year the Department receives numerous nuisance complaints from the public. Complaints range from agricultural crop damage to damage of personal property, and aggression toward humans, livestock, and pets. Many complaints occur during winter and early spring when wild turkeys congregate in large flocks at lower elevations in residential and agricultural areas.

As human and turkey populations in Idaho expanded, so have the number of nuisance complaints. Where wild turkeys utilize urban food resources and security cover, and regularly interact with humans, they can gradually lose fear of humans and become habituated. Even though threats posed by wild turkeys to public safety are rare, interactions with people should be minimized.

Conflict Response

Department responses to wild turkey conflicts attempt to balance the responsibility to aid affected citizens, and provide robust wild turkey populations for hunting opportunity.

Wild turkey conflicts are dynamic and site specific; therefore, managers need to be flexible and adaptive to address specific conflict issues. As such, Department staff will use the following step-down approach as a framework to address wild turkey conflicts, but acknowledge each conflict situation may require a different response to achieve the desired result; there is no “one-size-fits-all” approach.

Non-lethal → Lethal, by public engagement → Lethal by landowner → Consider trap and translocate

Appendix [DE](#) provides a list of techniques available to address nuisance and depredation issues.

Trap and Translocation

If managers determine wild turkey trapping and translocation is necessary to address a conflict situation, the following guidelines should be considered:

- Conduct a Habitat Suitability Evaluation (Appendix [EF](#)) to evaluate and identify release locations prior to any trapping and translocation activities;

- Wild turkeys considered for translocation should originate from habitat similar to the proposed release location;
- Translocations into areas where supplemental feeding will likely be necessary to maintain wild turkeys will not be supported;
- Landowner nuisance and depredation concerns should be considered at release locations;
 - Wild turkey releases that will likely result in high numbers of nuisance and depredation issues will not be supported;
- Translocations should not be considered in areas where previous releases with adequate wild turkey numbers from similar habitat types failed;
- Proposed release locations will provide public hunting opportunity;
- Potential impacts to native flora and fauna should be considered at release locations; and
- Proposals for translocations within a region should receive prior approval from the regional supervisor. After regional approval, the proposal should be routed to the state game manager for consideration.

Winter Feeding

Emergency and supplemental winter feeding is the intentional and artificial spreading of food to maintain or increase wild turkey survival, alleviate depredations, or reduce risks to public safety. Emergency winter feeding is usually implemented in response to severe winter conditions which limit access to natural food.

The Department recognizes severe winter conditions (i.e., extreme cold temperatures and prolonged periods with loose, powdery snow cover) can negatively affect wild turkeys. In fact, during early years of wild turkey introductions, the Department sanctioned supplemental winter feeding to help establish wild turkey populations. Additionally, private citizens and NWTF regularly fed small wild turkey flocks; backyard feeding sites consisting of 20–40 birds were fairly common through the 1990s and still exist in some areas. Unfortunately, supplemental feeding artificially concentrates wild turkeys, which can lead to increased nuisance and depredation complaints, disease transmission, predation, and habituation to humans. Consequently, the Department only supports emergency winter feeding when there is a(n):

- Actual or imminent threat of damage to private property; or
- Threat to public safety.

If emergency winter feeding is deemed appropriate, feeding operations should be conducted in areas away from human residences, and in close proximity to roosting and escape cover, if possible.

Emergency winter feeding should occur at dispersed locations (bait sites), rather than at a large single site. Emergency winter feeding is not intended to sustain wild turkey populations; therefore, the amount of grain to feed should be restricted to ≤ 4 ounces/bird/day (Appendix [FG](#)). Turkeys should be weaned from supplemental food as soon as conditions permit (Hoffman et al. 1993).

The Department does not encourage or support supplemental or recreational winter feeding of wild turkeys. Alternatives to supplemental feeding include planting food plots or mast-bearing trees and shrubs, or leaving unharvested crops to benefit wild turkeys in wintering areas. Furthermore, some of these practices may be eligible for cost share through the Department's Habitat Improvement Program (HIP).

MANAGEMENT DIRECTION

| MANAGEMENT GOAL: Respond effectively to wild turkey nuisance and depredation issues. | |
|--|---|
| Objectives | Strategies |
| Reduce wild turkey conflict in areas with chronic nuisance or depredation issues | <p>Begin using the step-down approach identified in this Plan to resolve wild turkey nuisance and depredation complaints.</p> <p>Prioritize hunting to manage wild turkey nuisance and depredation issues.</p> <p>Haze or trap and translocate nuisance or depredating wild turkeys where hunting is not feasible.</p> <p>Issue kill permits in areas where other methods to alleviate the issue have failed.</p> <p>Discourage supplemental or recreational feeding of wild turkeys.</p> <p>Explore methods to connect fall wild turkey hunters with landowners experiencing issues.</p> <p>Explore new methods, including those listed in Appendix D<u>E</u>, to alleviate nuisance and depredation issues.</p> <p>Address habitat limitations that may contribute to wild turkey depredations.</p> <p>Document and annually report all wild turkey complaints and Department responses to better understand extent, trends, and types of problems to inform future Department management actions.</p> |

| MANAGEMENT GOAL: Standardize Department wild turkey translocation efforts. | |
|---|--|
| Objectives | Strategies |
| Implement statewide wild turkey translocation guidelines by autumn 2022. | <p>Identify and map winter range habitat for wild turkeys in Idaho.</p> <p>Consider revisions to the statewide wild turkey habitat suitability evaluation worksheet (Appendix EF) to determine suitable translocation areas by summer 2022.</p> <p>Complete wild turkey habitat suitability evaluation worksheet prior to conducting any translocations.</p> <p>Use Western Association of Fish and Wildlife (WAFWA 2019) guidelines to conduct disease testing for all wild turkey translocation efforts.</p> <p>Mark or band translocated birds to monitor success of translocation efforts.</p> <p>Develop and maintain statewide database to house and retrieve wild turkey band data by autumn 2022.</p> |

| MANAGEMENT GOAL: Implement wild turkey emergency winter feeding criteria only when there is a(n): actual or imminent threat of depredation to private property; or threat to public safety. | |
|--|---|
| Objectives | Strategies |
| Communicate wild turkey emergency winter feeding criteria to Department staff and the general public. | <p>Ensure staff have access to emergency winter feeding guidelines (Appendix FG).</p> <p>Discourage supplemental or recreational feeding of wild turkeys.</p> <p>Develop information and outreach materials that identify potential negative impacts caused by supplemental winter feeding by autumn 2022.</p> <p>Use press releases and Department website to distribute information and outreach materials about winter feeding.</p> |

HABITAT IMPROVEMENT AND MANAGEMENT

Habitat management and improvement are the most important components to sustain wild turkey populations in Idaho. Long-term trends in wild turkey populations are related to continuity, quality, and quantity of available habitat. Short-term or annual fluctuations in population density and abundance occur in response to weather conditions during nesting, brood-rearing, or winter periods (Fleming and Porter 2007). Population density remains relatively stable long-term unless large-scale habitat changes or conversions occur (e.g., wildfires, development). In Idaho, geographic diversity and habitat variability dampen short-term fluctuations in overall wild turkey populations caused by weather conditions. However, as the state's human population increases, and existing habitat becomes converted or fragmented, habitat management on both public and private lands will become increasingly important.

Idaho wild turkey populations use diverse natural and agricultural habitats ranging from coniferous forests and shrub-steppe rangelands, to row-crop fields and livestock feedlots. Successful wild turkey populations have access to diverse habitats with suitable roost sites, adequate and secure nesting areas, brood-rearing areas, and winter food such as mast-bearing shrubs and trees or agricultural food sources (e.g., livestock feedlots, standing row crops). Wild turkeys can benefit from multi-species and landscape-scale habitat improvements and management. To have the most beneficial impact on wild turkey populations, habitat improvement projects should strive to address factors limiting wild turkey productivity, recruitment, and survival.

For decades, conservation efforts by farmers, ranchers, forest landowners, and other private landowners have been supported by a series of federal laws collectively known as the Farm Bill. First enacted by Congress in 1985, the Farm Bill is the most important tool to conserve habitat on private lands. Farm Bill conservation programs fund easements to protect agricultural lands, implement efforts to protect at-risk species on working lands, and provide technical assistance to help landowners improve their operations while conserving natural resources, and much more.

Although individual programs and overall funding levels have changed, Congress continues to support conservation on private lands. The Agricultural Improvement Act of 2018, the most recently enacted Farm Bill, dedicated approximately \$29 billion dollars, through 2023, for conservation in 4 main areas: working lands programs, CRP, conservation easements, and partnerships.

One of the most successful efforts by the Department has been to co-locate 3 Farm Bill biologists into Natural Resources Conservation Service (NRCS) field offices. These biologists work directly with landowners and U.S. Department of Agriculture staff in an effort to achieve the largest benefits for wildlife with available funding. A primary reason for success is that these Farm Bill biologists are located in offices where agricultural landowners are seeking advice and technical assistance.

Furthermore, the Department initiated HIP. This program was originally established in response to dwindling pheasant populations; however, HIP has expanded to develop and enhance habitat on both private and public lands for a variety of upland species. In any given year, Department staff work with 50–100 landowners to conduct habitat improvement projects.

Although multiple programs within the Department fund habitat work, the total amount (<\$600,000 in FY20) is very small compared to the Idaho appropriation of federal Farm Bill funds (~\$45,000,000 in

FY17). Leveraging Department programs with other funding sources and partners is often the best way to use these funds to expand their impact on the ground. As such, the Department partners with NWTf, U.S. Forest Service, and others to support habitat projects that benefit wild turkeys and a variety of other species.

MANAGEMENT DIRECTION

| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and others to maintain and improve available habitat for wild turkeys in Idaho. | |
|--|--|
| Objectives | Strategies |
| Continue to leverage Department funds with other funding sources and partners to maintain and improve wild turkey habitat on private lands. | <p>Encourage enrollment of private lands into CRP and other Farm Bill programs.</p> <p>Maintain or increase number of Department Farm Bill biologists in NRCS offices to encourage landowners to participate in federal Farm Bill programs and design conservation projects to benefit wild turkeys.</p> <p>Use Department HIP funds to incentivize landowners or leverage funding from other programs (i.e., CRP, Environment Quality Incentives Program [EQIP], Conservation Stewardship Program [CSP]) to improve wild turkey habitat on private lands.</p> |
| Continue to work with partner agencies to provide technical input that will help inform management decisions that maintain or improve wild turkey habitat (e.g., nesting and brood-rearing cover, riparian areas, and winter habitat). | <p>Provide technical and financial assistance to public land managers to conduct cooperative restoration or rehabilitation of diverse habitats across land ownership boundaries.</p> <p>Provide technical assistance on grazing allotments, timber sales, travel management plans, fuels and prescriptive fire treatments, and other land use proposals to benefit wild turkey populations.</p> |
| Maintain or improve wild turkey habitat on Department-owned Wildlife Management Areas (WMAs) to maintain and improve wild turkey hunting opportunity. | <p>Develop or enhance wild turkey habitat on WMAs and Wildlife Habitat Areas (WHA) where wild turkeys are currently present.</p> <p>Develop or enhance wild turkey habitat on WMAs or WHAs where wild turkeys are not currently present to help alleviate depredations in surrounding areas.</p> |
| Work with private landowners to promote importance of wildlife habitat conservation on private lands. | Develop education and outreach materials that describe benefits of habitat improvement on public and private lands. |

HUNTING ACCESS

A primary function of the Department is to provide access to and through private lands for Idaho hunters, trappers, and anglers. Limited access to hunting areas has been identified by the Council to Advance Hunting and the Shooting Sports (CAHSS) as an impediment to the number of people who participate in hunting (CAHSS 2016). In Idaho, respondents to both the 2018 upland game and 2018 white-tailed deer (*Odocoileus virginianus*) hunter surveys, indicated they would like additional access to private lands for hunting. More recently, >89% of respondents to the 2020 Idaho Wild Turkey Hunter Opinion Survey identified access to public land as very to extremely important to their wild turkey hunting experience.

To help improve hunter and angler access in Idaho, the Department has developed a suite of tools:

- The Access Yes! Program is designed to secure access to private land or through private land to landlocked public land. During 2020 approximately 900,000 acres of land in Idaho were open to the public via Access Yes!
- A 2018 agreement with the Idaho Department of Lands (IDL) provides continued access to 2.3 million acres of land. Historically, these lands were open to the public. However, in recent years, other western states have restricted or eliminated public access on their state trust lands, or required user fees or general tax funds to maintain access and recreation. This agreement will ensure Idaho state endowment lands are open to the public to hunt upland and other game species.
- A “large tracts” program is focused on securing access to private land parcels >50,000 acres. During 2020 approximately 931,000 acres of land in Idaho were enrolled in the Large Tracts Access program. The majority of these properties are located in the northern portion of the state and are owned by private timber companies.
- Increased attention to Department-owned properties (i.e., WMAs, WHAs, and backcountry properties) to increase hunter, trapper, and angler opportunities.

In addition to these programs, which are primarily focused on private or state-owned lands, the Department continues to work with federal partners to secure access to federal lands and to explore additional tools to maintain and expand access.

MANAGEMENT DIRECTION

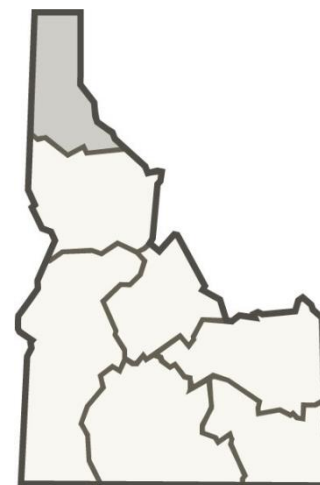
| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and other partners to provide additional access for wild turkey hunting. | |
|--|---|
| Objectives | Strategies |
| Continue to seek access opportunities to private lands or access through private lands to public lands for wild turkey hunting. | <p>Actively pursue and enroll Access Yes! properties that provide wild turkey hunting opportunities.</p> <p>Develop press releases and website content to increase awareness of the Access Yes! program and highlight access opportunities for wild turkey hunters by spring 2023.</p> <p>Develop methods and incentives to increase interest among private landowners to implement access projects.</p> <p>Seek opportunities to enroll private lands into access incentive programs that also provide access to public lands. Pursue agreements that secure perpetual access to public land.</p> <p>Continue to support access agreements established with IDL and the Large Tracts Program.</p> <p>Encourage good stewardship of the private lands hunting privilege through our hunter education program and other regional education and outreach efforts.</p> |
| Promote a diversity of motorized and non-motorized access opportunities for wild turkey hunters. | Work with federal and state land management agencies on travel planning and access issues. |

REGIONAL WILD TURKEY PRIORITIES

In addition to statewide priorities described above, each IDFG region has unique opportunities and challenges for wild turkey management. Each Region has developed specific priorities intended to take advantage of these opportunities, or address specific challenges. Regional information on wild turkey management, harvest, and goals are described below.

PANHANDLE REGION

Regional wild turkey priorities include providing excellent hunting opportunities, expanding hunter access to private lands, and decreasing depredation issues. Panhandle Region will continue to emphasize providing high quality turkey hunting, and evaluate hunting seasons to maximize hunter opportunity. Regional staff will pursue opportunities to work with land managers to improve habitat to benefit wild turkeys. Staff will work with private landowners and sports groups to increase private land access for turkey hunting and to pursue additional mentored hunting opportunities for youth and first-time hunters.



| Regional Harvest Characteristics - Panhandle | | | | | |
|--|--------|--------|--------|--------|--------|
| Spring | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 2,475 | 2,782 | 2,624 | 2,541 | 4,398 |
| Hunter days | 8,141 | 8,764 | 10,192 | 8,895 | 17,926 |
| Toms | 1,146 | 925 | 890 | 823 | 1,393 |
| Jakes | 284 | 175 | 216 | 337 | 370 |
| Total harvest | 1,489 | 1,114 | 1,111 | 1,164 | 1,810 |
| Success | 60% | 40% | 42% | 46% | 41% |
| Days/bird | 5.47 | 7.87 | 9.17 | 7.64 | 9.90 |
| % jakes | 19% | 16% | 19% | 29% | 20% |
| Fall | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 2,702 | 2,376 | 1,762 | 2,133 | 2,927 |
| Hunter days | 11,091 | 10,378 | 7,864 | 10,123 | 14,791 |
| Toms | 766 | 823 | 596 | 676 | 1,049 |
| Hens | 750 | 695 | 582 | 748 | 890 |
| Total harvest | 1,682 | 1,607 | 1,212 | 1,506 | 2,019 |
| SUT harvest | 613 | 693 | 503 | 677 | 786 |
| % harvest from SUTs | 36% | 43% | 42% | 45% | 39% |
| Success | 62% | 68% | 69% | 71% | 69% |
| Days/bird | 6.59 | 6.46 | 6.49 | 6.72 | 7.33 |
| % beardless | 45% | 43% | 48% | 50% | 44% |

HUNTING OPPORTUNITIES

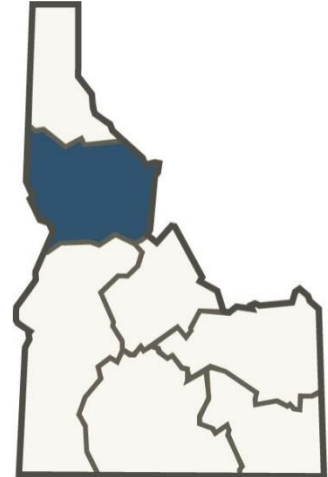
| MANAGEMENT GOAL: Maintain wild turkey populations to provide high-quality hunting opportunities, maximize hunting opportunity where possible, and implement harvest strategies to reduce nuisance and depredation issues on private land in the Panhandle Region. | |
|--|---|
| Objectives | Strategies |
| Increase regional hunter participation in wild turkey hunting. | <p>Work with sports groups to implement wild turkey hunting workshops to increase interest in turkey hunting.</p> <p>Provide outreach to hunters through social media and blogs to inform and provide information about wild turkey hunting.</p> <p>Work with sports groups to explore opportunities for youth-mentored wild turkey hunts.</p> <p>Work with Communications Bureau to promote wild turkey hunting as:</p> <ul style="list-style-type: none"> - A good opportunity for beginner hunters; - A way to diversify hunting experiences; - A great way to treat cabin fever (i.e., spring is here, get out and enjoy the outdoors; - Spring wild turkey-bear hunting combo hunts; - Fall turkey hunting, an over looked opportunity. - A great source of wild game meat |

NUISANCE AND DEPREDACTIONS

| MANAGEMENT GOAL: Respond effectively to wild turkey nuisance and depredation issues in the Panhandle Region. | |
|---|--|
| Objectives | Strategies |
| Allow liberal season lengths and tag allowances during fall and winter seasons to help alleviate nuisance and depredation issues. | <p>Increase special unit tag allowances per hunter during fall and winter seasons to maximize hunter harvest ability.</p> <p>Transition turkey tags to single punch card to allow for spring and fall harvest consistent with spring and fall bag limits and beard restrictions.</p> |

CLEARWATER REGION

Regional priorities include providing excellent hunting opportunities, expanding hunter access on private lands, and reducing nuisance and depredation issues. Clearwater Region staff will pursue opportunities to work with public land managers, private timber companies, and private landowners to improve habitat for wild turkeys across the region to increase habitat capacity. Clearwater Region staff will also work with private landowners and sports groups to increase access for wild turkey hunting.



| Regional Harvest Characteristics - Clearwater | | | | | |
|---|--------|--------|--------|--------|--------|
| Spring | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 3,608 | 5,110 | 3,805 | 4,693 | 5,601 |
| Hunter days | 12,306 | 15,701 | 12,009 | 14,062 | 16,849 |
| Toms | 1,528 | 1,385 | 1,351 | 1,600 | 2,101 |
| Jakes | 691 | 389 | 372 | 483 | 491 |
| Total harvest | 2,244 | 1,780 | 1,745 | 2,147 | 2,655 |
| Success | 62% | 35% | 46% | 46% | 47% |
| Days/bird | 5.48 | 8.82 | 6.88 | 6.55 | 6.35 |
| % jakes | 31% | 22% | 21% | 22% | 18% |
| Fall | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 1,173 | 1,045 | 1,245 | 1,376 | 2,609 |
| Hunter days | 4,360 | 4,094 | 4,935 | 3,814 | 17,382 |
| Toms | 211 | 286 | 344 | 392 | 564 |
| Hens | 310 | 220 | 285 | 219 | 413 |
| Total harvest | 550 | 525 | 670 | 638 | 1049 |
| Success | 47% | 50% | 54% | 46% | 40% |
| Days/bird | 7.93 | 7.80 | 7.37 | 5.98 | 16.57 |
| % beardless | 56% | 42% | 43% | 34% | 39% |

NUISANCE AND DEPREDACTIONS

| MANAGEMENT GOAL: Respond effectively to wild turkey nuisance and depredation issues in the Clearwater Region. | |
|---|---|
| Objectives | Strategies |
| Promote hunting and other legal harvest strategies as a primary mechanism to address nuisance and depredation issues. | <p>Use depredation hunts to address nuisance and depredation issues.</p> <p>Use kill permits to address nuisance and depredation issues where depredation hunts are impractical (e.g., livestock feedlots).</p> |

HABITAT IMPROVEMENT AND MANAGEMENT

| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and others to maintain and improve wild turkey habitat in the Clearwater Region. | |
|--|--|
| Objectives | Strategies |
| Improve extent, distribution, and quality of nesting, brood-rearing, winter, and foraging habitats for wild turkeys. | Maintain a Farm Bill Biologist as a Department liaison and technical service provider to work with regional Farm Service Agency (FSA)-NRCS to implement federal Farm Bill programs on private lands. |

SOUTHWEST REGION

Within the Southwest Region, established turkey populations are generally at carrying capacity, and many turkeys are dependent on private lands or winter feeding during severe winters. The primary regional priority is to reduce turkey nuisance and depredation reports while still providing quality hunting opportunities. Currently this is accomplished by maintaining general and high-quality controlled spring hunting opportunities, and maximizing fall hunting opportunities to reduce winter feeding, and depredations and nuisance complaints. Identifying appropriate additional translocation sites may allow for more efficient translocation efforts when deemed necessary.



| Regional Harvest Characteristics - Southwest | | | | | |
|--|-------|--------|-------|-------|--------|
| Spring - General | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 2,985 | 4,129 | 3,265 | 3,968 | 6,387 |
| Hunter days | 9,021 | 11,339 | 9,287 | 9,863 | 19,900 |
| Toms | 470 | 521 | 466 | 695 | 1,128 |
| Jakes | 224 | 362 | 324 | 426 | 617 |
| Total harvest | 703 | 905 | 793 | 1,121 | 1,786 |
| Success | 24% | 22% | 24% | 28% | 28% |
| Days/bird | 12.83 | 12.53 | 11.71 | 8.80 | 11.14 |
| % jakes | 32% | 40% | 41% | 38% | 35% |
| Spring - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 169 | 147 | 164 | 202 | 163 |
| Hunter days | 501 | 384 | 546 | 518 | 651 |
| Toms | 113 | 99 | 99 | 119 | 63 |
| Jakes | 14 | 8 | 14 | 23 | 10 |
| Total harvest | 130 | 108 | 113 | 144 | 72 |
| Success | 77% | 73% | 69% | 71% | 44% |
| Days/bird | 3.85 | 3.56 | 4.83 | 3.60 | 9.04 |
| % jakes | 11% | 7% | 12% | 16% | 14% |
| Fall | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 172 | 115 | 163 | 59 | 717 |
| Hunter days | 362 | 389 | 510 | 168 | 3,607 |
| Toms | 4 | 12 | 24 | 31 | 75 |
| Hens | 0 | 14 | 0 | 3 | 87 |
| Total harvest | 4 | 26 | 31 | 34 | 162 |
| Success | 2% | 23% | 19 % | 58% | 23% |
| Days/bird | 90.50 | 14.96 | 16.45 | 4.94 | 22.27 |
| % beardless | 0% | 54% | 0% | 9% | 54% |

| Fall - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------------|------|------|------|------|------|
| Hunters | 119 | 131 | 159 | 180 | 95 |
| Hunter days | 365 | 338 | 377 | 558 | 263 |
| Toms | 25 | 39 | 38 | 33 | 16 |
| Hens | 39 | 33 | 50 | 48 | 32 |
| Total harvest | 66 | 78 | 89 | 84 | 48 |
| Success | 55% | 60% | 56% | 47% | 51% |
| Days/bird | 5.53 | 4.33 | 4.24 | 6.64 | 5.48 |
| % beardless | 59% | 42% | 56% | 57% | 67% |

HUNTING OPPORTUNITIES

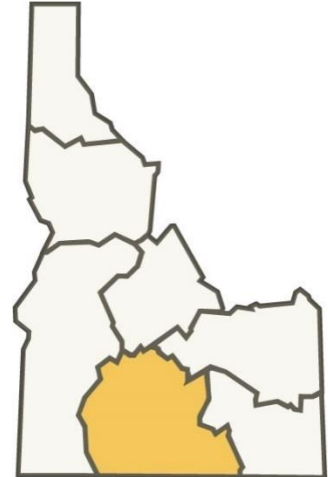
| MANAGEMENT GOAL: Maintain wild turkey populations to provide high-quality hunting opportunities, maximize hunting opportunity where possible, and implement harvest strategies to reduce nuisance and depredation issues on private land in the Southwest Region. | |
|--|---|
| Objectives | Strategies |
| Optimize wild turkey population management and harvest, concurrent with efforts to minimize wild turkey nuisance and depredation issues on private lands. | <p>Implement and evaluate winter harvest as a tool to provide additional hunter opportunity and mitigate nuisance and depredation issues.</p> <p>Provide general and controlled hunt opportunities to balance hunting opportunity with nuisance and depredation issues.</p> |

POPULATION MANAGEMENT AND MONITORING

| MANAGEMENT GOAL: Improve population monitoring and reporting to provide reliable information on population trends to wildlife managers, hunters, and the general public in the Southwest Region. | |
|---|--|
| Objectives | Strategies |
| Monitor wild turkey populations to better understand turkey population dynamics and inform management decisions. | <p>Develop and improve road transect methods to monitor turkey populations to facilitate population trend analysis or estimates by spring 2023.</p> <p>Implement pilot study to determine effectiveness of remote sensing methods for wild turkey population surveys by spring 2023.</p> |

MAGIC VALLEY REGION

Sustainable wild turkey populations in Magic Valley Region are located south of Snake River; the highest density of turkeys occur in GMU 54. Turkey hunting opportunity in the region consists of controlled hunts during April and May. Turkeys migrate to lower elevations in the region during winter, often spending winter on privately owned lands. Regional wild turkey management priorities include improving wintering habitat on public lands and reducing or eliminating turkey depredations on private lands. Translocation of turkeys in the region will follow guidelines in the statewide Plan.



| Regional Harvest Characteristics - Magic Valley | | | | | |
|---|-------|-------|-------|-------|-------|
| Spring - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 84 | 75 | 61 | 64 | 84 |
| Hunter days | 344 | 287 | 223 | 250 | 409 |
| Toms | 9 | 11 | 4 | 8 | 7 |
| Jakes | 23 | 8 | 14 | 3 | 2 |
| Total harvest | 31 | 19 | 18 | 11 | 9 |
| Success | 37% | 25% | 30% | 17% | 11% |
| Days/bird | 11.10 | 15.11 | 12.39 | 22.73 | 45.44 |
| % jakes | 74% | 42% | 78% | 27% | 22% |

HABITAT IMPROVEMENT AND MANAGEMENT

| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and others to maintain and improve wild turkey habitat in the Magic Valley Region. | |
|---|--|
| Objectives | Strategies |
| Improve extent, distribution, and quality of nesting, brood-rearing, winter, and foraging habitats for wild turkeys. | Work with regional FSA-NRCS to implement federal Farm Bill programs on private lands. |
| Maintain or improve wild turkey habitat on Department-owned Wildlife Management Areas (WMAs) to maintain and improve wild turkey hunting opportunity. | <p>Plant tree and shrub seedling species -thatwill provide food and suitable year-round habitat for wild turkeys on on Big Cottonwood WMA (BCWMA).</p> <p>Plant food plots of cereal grains on BCWMA that remain unharvested throughout fall and winter.</p> <p>Maintain nesting and brood-rearing habitat on BCWMA.</p> <p>Install signs to educate the public on the physical stress that wildlife endure during winter and how disturbance can increase stress to wintering flocks of wild turkeys on BCWMA.</p> <p>Work with NWTF and other organizations to fund wild turkey habitat projects on BCWMA.</p> |

SOUTHEAST REGION

Southeast Region is focused on responsible wild turkey population management with an overarching goal to ~~maintain~~ **provide and enhance** quality hunting opportunities, where appropriate, and reduce the number of areas where wild turkeys create conflicts. Wild turkey populations are limited by suitable winter range and conflicts that arise when most available winter range is occupied by residential homes or agricultural operations.



| Regional Harvest Characteristics - Southeast | | | | | |
|--|-------|-------|-------|-------|-------|
| Spring - General | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 1,664 | 1,436 | 1,460 | 1,566 | 1,803 |
| Hunter days | 5,679 | 5,407 | 5,411 | 5,561 | 7,208 |
| Toms | 538 | 288 | 277 | 306 | 566 |
| Jakes | 46 | 106 | 143 | 231 | 189 |
| Total harvest | 586 | 397 | 421 | 553 | 755 |
| Success | 35% | 28% | 29% | 35% | 42% |
| Days/bird | 9.69 | 13.62 | 12.85 | 10.06 | 9.55 |
| % jakes | 8% | 27% | 34% | 42% | 25% |
| Spring - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 41 | 24 | 29 | 33 | 36 |
| Hunter days | 163 | 71 | 129 | 120 | 125 |
| Toms | 22 | 8 | 14 | 7 | 15 |
| Jakes | 3 | 0 | 4 | 1 | 2 |
| Total harvest | 26 | 9 | 18 | 8 | 18 |
| Success | 63% | 38% | 62% | 24% | 50% |
| Days/bird | 6.27 | 7.89 | 7.17 | 15.00 | 6.94 |
| % jakes | 12% | 0% | 22% | 13% | 11% |
| Fall | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 642 | 403 | 541 | 387 | 1,496 |
| Hunter Days | 2,048 | 1,206 | 1,304 | 1,270 | 4,629 |
| Toms | 144 | 100 | 178 | 107 | 196 |
| Hens | 247 | 160 | 133 | 80 | 300 |
| Total harvest | 400 | 265 | 317 | 187 | 505 |
| Success | 62% | 66% | 59% | 48% | 34% |
| Days/bird | 5.12 | 4.55 | 4.11 | 6.79 | 9.17 |
| % beardless | 62% | 60% | 42% | 43% | 59% |

HUNTING OPPORTUNITIES

| MANAGEMENT GOAL: Maintain wild turkey populations to provide high-quality hunting opportunities, maximize hunting opportunity where possible, and implement harvest strategies to reduce nuisance and depredation issues on private land in the Southeast Region. | |
|---|--|
| Objectives | Strategies |
| Utilize harvest management strategies to maintain and manage wild turkey populations, and minimize nuisance and depredation issues. | Maintain spring and fall hunt opportunities to balance hunting opportunity with nuisance and depredation issues. |
| Investigate potential to expand wild turkey populations and hunting opportunity with consideration of depredation and nuisance complaints. | Trap and translocate wild turkeys from other regions to populate areas with suitable habitat. |

HABITAT IMPROVEMENT AND MANAGEMENT

| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and others to maintain and improve wild turkey habitat in the Southeast Region. | |
|--|---|
| Objectives | Strategies |
| Improve extent, distribution, and quality of nesting, brood-rearing, winter, and foraging habitats for wild turkeys. | <p>Consider wild turkey habitat requirements as part of multi-species habitat approach when providing technical assistance and project funding (HIP, etc.) to improve volume and quality of wild turkey habitat.</p> <p>Maintain a Farm Bill Biologist as a Department liaison and technical service provider to work with regional FSA-NRCS to implement federal Farm Bill programs on private lands.</p> <p>Focus wild turkey habitat improvements on winter range, and providing alternative forage and roosts adjacent to chronic nuisance and depredation areas.</p> |
| Maintain or improve wild turkey habitat on Department-owned Wildlife Management Areas (WMAs) to maintain and improve wild turkey hunting opportunity. | <p><u>Plant trees and herbaceous species that provide food and suitable year-round habitat for wild turkeys on</u> Establish wild turkey roost trees and winter forage and cover mosaic habitat projects on WMAs.</p> <p><u>Plant food plots on WMAs that remain unharvested throughout fall and winter.</u></p> |

HUNTING ACCESS

| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and other partners to provide additional access for wild turkey hunting in the Southeast Region. | |
|---|---|
| Objectives | Strategies |
| Maintain or increase the number of access agreements providing wild turkey hunting opportunities. | <p>Promote and prioritize wild turkey hunting when ranking and soliciting access agreements that provide access to public and private lands for wild turkey hunting.</p> <p>Employ a wide range of potential access agreements, including leases (Access Yes!), easements, purchases, and infrastructure cost-share agreements with private and public land managers.</p> |

UPPER SNAKE REGION

Wild turkey populations within Upper Snake Region are generally at carrying capacity given limited winter habitat. Populations annually fluctuate, and increased numbers correspond with increased winter depredations and nuisance complaints. Regional wild turkey management priorities include maintaining controlled spring and fall hunting opportunities, and investigating potential for expanding turkey populations and hunting opportunity in ways that minimize winter feeding, potential depredations, and nuisance complaints.



| Regional Harvest Characteristics - Upper Snake | | | | | |
|--|-------|-------|-------|-------|-------|
| Spring - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 228 | 240 | 200 | 254 | 271 |
| Hunter days | 786 | 923 | 680 | 1,035 | 1,093 |
| Toms | 47 | 41 | 40 | 49 | 64 |
| Jakes | 13 | 6 | 15 | 17 | 21 |
| Total harvest | 62 | 51 | 58 | 69 | 86 |
| Success | 27% | 21% | 29% | 27% | 32% |
| Days/bird | 12.68 | 18.10 | 11.72 | 15.00 | 12.71 |
| % jakes | 21% | 12% | 26% | 25% | 24% |
| Fall - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 13 | 19 | 18 | 15 | 23 |
| Hunter days | 33 | 68 | 79 | 24 | 87 |
| Toms | 5 | 3 | 0 | 4 | 7 |
| Hens | 4 | 6 | 5 | 7 | 4 |
| Total harvest | 9 | 10 | 5 | 11 | 11 |
| Success | 69% | 53% | 28% | 73% | 48% |
| Days/bird | 3.67 | 6.80 | 15.80 | 2.18 | 7.91 |
| % beardless | 44% | 60% | 100% | 64% | 36% |

HUNTING OPPORTUNITIES

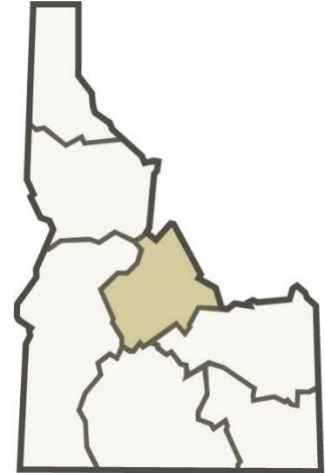
| MANAGEMENT GOAL: Maintain wild turkey populations to provide high-quality hunting opportunities, maximize hunting opportunity where possible, and implement harvest strategies to reduce nuisance and depredation issues on private land in the Upper Snake Region. | |
|--|--|
| Objectives | Strategies |
| Utilize harvest management strategies to maintain and manage wild turkey populations, and minimize nuisance and depredation issues. | Maintain spring and fall hunt opportunities to balance hunting opportunity with nuisance and depredation issues. |
| Investigate potential to expand wild turkey populations and hunting opportunity without increasing depredation and nuisance complaints. | Trap and translocate wild turkeys from other regions to populate areas with suitable habitat. |

HABITAT IMPROVEMENT AND MANAGEMENT

| MANAGEMENT GOAL: Work with partner agencies, private landowners, conservation organizations, and others to maintain and improve wild turkey habitat in the Upper Snake Region. | |
|---|--|
| Objectives | Strategies |
| Improve extent, distribution, and quality of nesting, brood-rearing, winter, and foraging habitats for wild turkeys. | Maintain a Farm Bill Biologist as a Department liaison and technical service provider to work with regional FSA-NRCS to implement federal Farm Bill programs on private lands. |

SALMON REGION

Wild turkey populations within the region are generally at winter habitat carrying capacity. Winter habitat is almost entirely located on private lands; consequently, turkey populations generally exceed social carrying capacity in the northern portion of the region. Populations have increased in numbers since their introduction and are often associated with winter depredations and nuisance complaints. Regional wild turkey management priorities include maintaining spring and fall hunting opportunities, and investigating potential for expanding hunting opportunity in ways that minimize winter depredations and nuisance complaints.



| Regional Harvest Characteristics - Salmon | | | | | |
|---|------|------|------|-------|------|
| Spring - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | 25 | 19 | 45 | 43 | 63 |
| Hunter days | 76 | 41 | 160 | 115 | 189 |
| Toms | 16 | 10 | 18 | 16 | 25 |
| Jakes | 5 | 1 | 4 | 1 | 3 |
| Total harvest | 21 | 11 | 22 | 17 | 28 |
| Success | 84% | 58% | 49% | 40% | 44% |
| Days/bird | 3.62 | 3.73 | 7.27 | 6.76 | 6.75 |
| % jakes | 24% | 9% | 18% | 6% | 11% |
| Fall - CH | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hunters | | | 27 | 27 | 35 |
| Hunter days | | | 103 | 134 | 85 |
| Toms | | | 12 | 5 | 16 |
| Hens | | | 4 | 2 | 11 |
| Total harvest | | | 16 | 7 | 27 |
| Success | | | 59% | 26% | 77% |
| Days/bird | | | 6.44 | 19.14 | 3.15 |
| % beardless | | | 25% | 29% | 41% |

HUNTER OPPORTUNITY AND HARVEST

| MANAGEMENT GOAL: Maintain wild turkey populations to provide high-quality hunting opportunities, maximize hunting opportunity where possible, and implement harvest strategies to reduce nuisance and depredation issues on private land in the Salmon Region. | |
|---|---|
| Objectives | Strategies |
| Utilize harvest management strategies to maintain and manage wild turkey populations, and minimize nuisance and depredation issues. | Maintain spring and fall hunt opportunities to balance hunting opportunity with nuisance and depredation issues. Continue to monitor winter populations and landowner complaints to inform season structure. |

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APPENDIX **AB**. HISTORY OF WILD TURKEY TRANSLOCATION IN IDAHO.

| Year | Subspecies ^a | Source ^b | Release site | Number released |
|------|-------------------------|----------------------------|----------------------|-----------------|
| 1961 | M | Colorado | GMU 18 | 17 |
| 1962 | M | Colorado | GMU 18 | 11 |
| 1963 | M | Colorado | GMU 14 | 11 |
| 1965 | M | GMU 18 | GMU 11 | 10 |
| 1966 | M | GMU 14 | GMUs 11, 39 | 14 |
| 1967 | M | GMU 18 | GMU 22 | 19 |
| 1970 | M | Unknown | GMU 32 | 14 |
| 1971 | M | GMU 6 | GMU 8 | 15 |
| 1972 | M | GMU 6 | GMU 8 | 2 |
| 1973 | M | GMU 6 | GMUs 8, 11 | 6 |
| 1979 | M | Unknown | GMU 31 | 5 |
| 1980 | M | South Dakota | GMU 18 | 10 |
| 1982 | M | South Dakota | GMUs 11, 14 | 31 |
| | R | Kansas, Oklahoma, Texas | GMU 11A | 51 |
| | R | Unknown | GMUs 22, 38, 53, 68A | 115 |
| | M | Unknown | GMUs 22, 25, 32 | 38 |
| 1983 | R | Oklahoma, Texas | GMU 11A | 18 |
| | M, R | Unknown | GMUs 28, 39, 55 | 84 |
| 1984 | R | Unknown | GMUs 40, 55, 68A | 65 |
| | R | Texas | GMU 63A | 32 |
| 1985 | R | Texas | GMU 13 | 34 |
| | E | Pennsylvania | GMU 10A | 16 |
| | R | Unknown | GMUs 28, 40 | 7 |
| 1986 | M | GMU 22 | GMU 8 | 34 |
| | R | North Dakota | GMU 11 | 14 |
| | M | Unknown | GMU 39 | 17 |
| | R | Unknown | GMU 40 | 14 |
| 1987 | M | Unknown | GMU 39 | 20 |
| 1988 | M | GMUs 11, 22 | GMUs 8, 11A, 13 | 83 |
| | M | Unknown | GMUs 39, 54 | 45 |

| Year | Subspecies | Source | Release site | Number released |
|------|------------|---------------------|-------------------------------------|-----------------|
| 1988 | R | GMU 32A | GMU 63A | 12 |
| 1989 | M | GMU 10A | GMU 11A | 18 |
| | R | Unknown | GMU 38 | 14 |
| 1990 | M | GMU 8 | GMU 14 | 16 |
| | E | North Dakota | GMU 10A | 17 |
| | M | Idaho | GMUs 22, 31, 39, 68A | 156 |
| 1991 | M | GMUs 1, 8, 9, 11 | GMUs 11, 11A, 14 | 113 |
| | E, R | North Dakota | GMUs 8A, 10A | 80 |
| | M | Unknown | GMUs 28, 36B | 40 |
| 1992 | M | GMU 1 | GMUs 11 | 28 |
| | M | North Dakota | GMUs 11, 14 | 48 |
| 1993 | M | GMUs 1, 3, 8 | GMUs 10A, 11, 14 | 93 |
| | M | North Dakota | GMUs 11, 13 | 49 |
| 1993 | M | Unknown | GMUs 21A, 31, 32A, 36B, 39, 68A, 77 | 260 |
| | R | Unknown | GMUs 32, 38 | 58 |
| 1994 | M | GMUs 1, 8, 11A | GMUs 8, 11A, 14 | 90 |
| | R | Unknown | GMUs 38, 54 | 59 |
| | M | Unknown | GMUs 32, 68A, 77 | 142 |
| 1995 | M | GMUs 8, 11A | GMUs 8, 11A, 14 | 36 |
| | M | Unknown | GMU 33 | 57 |
| | R | Unknown | GMU 54 | 14 |
| 1996 | M | British Columbia | GMUs 8, 11 | 63 |
| | M | GMUs 8, 10A, 11A | GMUs 11, 15 | 54 |
| | R | Unknown | GMUs 38, 54 | 28 |
| 1997 | M | Idaho | GMUs 8A, 11, 13, 15, 18 | 261 |
| | R | Unknown | GMU 32 | 35 |
| | M | Unknown | GMUs 31, 33 | 105 |
| 1998 | M | GMUs 8, 10A, 11, 15 | GMUs 14, 18, 20, 32A, 33 | 121 |
| | M | Unknown | GMUs 31, 32, 39 | 53 |
| | R | Unknown | GMUs 32, 54 | 92 |
| 1999 | M | GMU 10A | GMUs 15, 23 | 64 |
| | R | Unknown | GMUs 32, 54 | 62 |
| | M | Unknown | GMUs 28, 37, 39, 50 | 140 |
| | U | Idaho; unknown GMU | GMU 77 | 15 |

| Year | Subspecies | Source | Release site | Number released |
|------|------------|-----------------------|------------------------------------|-----------------|
| 2000 | M | Idaho; unknown GMU | GMUs 11, 13, 14, 15, 18, 63A | 332 |
| | U | Idaho; unknown GMU | GMU 77 | 50 |
| 2001 | M | Idaho; unknown GMU | GMUs 15, 63A | 436 |
| | R | California | GMU 54 | 41 |
| | U | Unknown | GMU 71 | 136 |
| 2002 | M | Idaho; unknown GMU | GMUs 10A, 11, 14, 15, 63A, 67, 69 | 227 |
| 2003 | I | GMUs 1, 39 | GMUs 11, 63A, 67, 69 | 196 |
| 2004 | M | Idaho; unknown GMU | GMUs 5, 8A, 11 | 286 |
| 2005 | M | GMUs 1, 3, 13, 15, 54 | GMUs 5, 11, 13, 15, 33, 39, 54 | 190 |
| 2006 | M | GMUs 1, 2 | GMUs 1, 4A, 11, 39 | 220 |
| 2007 | R | Washington | GMU 38 Little Banks Island | 34 |
| | M | GMU 1 | GMU 39 Bender, Cottonwood, Willow | 99 |
| | R | GMU 54 | GMU 54 Green Creek | 17 |
| | M | GMU1 | Utah | 24 |
| | M | GMU 1 | GMU 11 Benton Meadows, Eagle Creek | 130 |
| 2007 | I | GMU 14 | GMU 15 Brown Creek | 22 |
| | M | GMU 1 | GMU 1 | 45 |
| 2008 | M | GMU 1 | GMU 1 | 40 |
| | I | GMU 15 | GMU 11A | 16 |
| | I | GMU 11A | GMU 15 | 20 |
| | I | GMU 15 | GMU 15 | 14 |
| | M | GMU 1 | GMUs 22, 31 Andrus WMA | 157 |
| | R | Oregon | GMU 32 Montour WMA | 32 |
| | R | GMU 54 | GMUs 32, 38 | 23 |
| | R | GMU 54 | GMUs 54 Green Creek | 64 |
| | M | GMU 1 | GMU 68A | 82 |
| 2009 | I | GMU 1 | GMU 1 | 23 |
| | I | GMU 1 | GMU 31 | 156 |
| | R | GMU 54 | GMU 54 | 21 |
| 2010 | I | GMU 1 | GMU 31 | 75 |

| Year | Subspecies | Source | Release site | Number released |
|------|------------|---------------------|--------------|-----------------|
| 2011 | I | GMU 11 | GMU 11 | 37 |
| | I | GMU 11A | GMU 14 | 8 |
| | I | GMU 11A | GMU 15 | 7 |
| 2013 | I | Idaho | GMU 68A | 18 |
| 2015 | R | GMU 54 | GMU 41 | 15 |
| | I | GMU 77 | GMU 21A | 62 |
| 2016 | I | GMU 13 | GMU 15 | 95 |
| 2017 | U | GMU 38 | GMU 21A | 17 |
| 2018 | U | GMU 31 | GMU 21A | 50 |
| 2019 | U | GMUs 75, 77 | GMU 21A | 85 |
| | I | GMUs 70, 71, 73, 77 | GMU 68A | 175 |
| | I | GMU 39 | GMU 38 | 100 |
| 2020 | I | GMU 77 | GMU 68A | 36 |
| | I | GMU 70 | GMU 71 | 7 |
| | I | GMU 70 | GMU 68A | 6 |
| 2021 | I | GMU 76 | GMU 77 | 14 |
| | I | GMU 73 | GMU 77 | 22 |
| | I | GMUs 70, 71 | GMU 63A | 109 |

^a M = Merriam's, R = Rio Grande, E = Eastern, I = Intergrade, U = Unknown, subspecies was not documented.

^b GMU = Game management unit

APPENDIX **BC**. HISTORICAL WILD TURKEY SEASONS AND RULES FOR IDAHO, 1967—2020.

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|------------------------|-----------------------------------|-----------------------|----------------------|-------------|--------------------------------|---|--|
| 1967 | 2,3 | F | 9/30-10/15 | 16 | C | No | N/A | Either sex | Rifle, shotgun, longbow | 1 st season in Idaho; 150 permits |
| 1968 | 2,3 | F | 9/28-9/29 | 2 | G | No | N/A | Either sex | Rifle, shotgun, longbow | 1 st general season |
| 1969 | 2,3 | F | 9/27-10/1 | 5 | G | No | N/A | Either sex | Rifle, shotgun, longbow | |
| 1970 | 2,3 | F | 9/26-10/4 | 7, 9 | G, C | No | N/A | Either sex | Rifle, shotgun, longbow | |
| 1971 | 2,3 | F | 9/25-10/1 | 14, 7 | G, C | No | N/A | Either sex | Rifle, shotgun, longbow | |
| 1972 | 2,3 | F | 9/23-10/6 | 14 | G | No | N/A | Either sex | Rifle, shotgun, longbow | |
| 1973 | 2,3 | F | 9/22-10/5 | 14 | G | No | N/A | Either sex | Rifle, shotgun, longbow | |
| 1974 | 2,3 | S, F | 5/4-5/12; 9/21-10/4 | 9, 14 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | 1 st spring season |
| 1975 | 2,3 | S, F | 5/3-5/11; 9/20-10/3 | 7, 14 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | |

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|------------------------|-----------------------------------|-----------------------|----------------------|-------------|--------------------------------|---|-------|
| 1976 | 2,3 | S, F | 5/1-5/9; 9/18-10/3 | 9, 16 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | |
| 1977 | 2,3 | S, F | 4/30-5/8; 9/17-10/2 | 9, 16 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | |
| 1978 | 2,3 | S, F | 4/29-5/7; 9/16-10/1 | 9, 16 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | |
| 1979 | 2,3 | S, F | 4/28-5/6; 9/15-9/30 | 9, 16 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | |
| 1980 | 2,3 | S, F | 4/26-5/4; 9/20-9/28 | 9, 9 | G | No | N/A | S - Bearded; F - Either sex | S – Shotgun, longbow; F - Rifle, pistol, shotgun, longbow | |
| 1981 | 2,3 | S | 4/25-5/3 | 9 | G | No | N/A | Bearded | Shotgun, longbow | |
| 1982 | 2,3 | S | 4/24-5/2 | 9 | G | No | N/A | Bearded | Shotgun, longbow | |
| 1983 | 2,3 | S | 4/23-5/1 | 9 | G | No | N/A | Bearded | Shotgun, bow and arrow | |
| 1984 | 2,3,5 | S | 4/25-5/10 | 16 | G, C | No | N/A | Bearded | Shotgun (≤10 gauge), longbow, recurve or compound bow | |
| 1985 | 1,2,3,4,5,6 | S | 4/24-5/9 | 16 | G, C | No | N/A | Bearded | Shotgun (≤10 gauge), longbow, recurve or compound bow | |

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|-----------|-----------------------------------|-----------------------|----------------------|-------------|-----------------|---|---|
| 1986 | 1,2,3,4,5,6 | S | 4/14-5/11 | 28 | G, C | No | N/A | Male or bearded | Shotgun (≤10 gauge), longbow, recurve or compound bow | |
| 1987 | 1,2,3,4,5,6 | S | 4/13-5/10 | 28 | G, C | No | N/A | Male or bearded | Shotgun, longbow, recurve or compound bow | Shotgun shell length ≤3 1/2" rule began |
| 1988 | 1,2,3,4,5,6 | S | 4/11-5/8 | 28 | G, C | No | N/A | Male or bearded | Shotgun, longbow, recurve or compound bow | |
| 1989 | 1,2,3,4,5,6 | S | 4/17-5/7 | 21 | G, C | No | N/A | Male or bearded | Shotgun, longbow, recurve or compound bow | |
| 1990 | 1,2,3,4,5 | S | 4/9-5/6 | 28 | G, C | No | N/A | Male or bearded | Shotgun, longbow, recurve or compound bow, falconry | |
| 1991 | 1,2,3,4,5 | S | 4/8-5/5 | 28 | G, C | No | N/A | Male or bearded | Shotgun (including muzzleloader), archery (no crossbow) | |
| 1992 | 1,2,3,4,5 | S | 4/13-5/10 | 28 | G, C | No | N/A | Male or bearded | Shotgun (including muzzleloader), archery (no crossbow) | |
| 1993 | 1,2,3,4,5 | S | 4/12-5/18 | 37 | G, C | No | N/A | Male or bearded | Shotgun (including muzzleloader), archery (no crossbow) | |

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|--------------------------|-----------------------------------|-----------------------|----------------------|-------------|--------------------------------|---|---|
| 1994 | 1,2,3,4,5 | S | 4/11-5/17 | 37 | G, C | No | N/A | Male or bearded | Shotgun (including muzzleloader), archery (no crossbow) | |
| 1995 | 1,2,3,4,5 | S | 4/10-5/7 | 28 | G, C | No | N/A | Male or bearded | Shotgun (including muzzleloader), archery (no crossbow) | |
| 1996 | 1,2,3,4,5 | S | 4/8-5/12 | 35 | G, C | No | N/A | Male or bearded | Shotgun (including muzzleloader), archery (no crossbow) | |
| 1997 | 1,2,3,4,5 | S | 4/14-5/18 | 35 | G, C | C | 4/19-4/27 | Bearded | Shotgun (including muzzleloader), archery (no crossbow) | 1 st youth season, GMU 54 controlled |
| 1998 | 1,2,3,4,5 | S, F | 4/15-5/14; 10/1-10/31 | 35, 31 | G, C | C | 4/25-5/3 | Bearded | Shotgun (including muzzleloader), archery (no crossbow) | Fall season reinstated |
| 1999 | 1,2,3,5 | S, F | 4/15-5/25; 10/1-10/31 | 41, 31 | G, C | No | N/A | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | 2 nd spring turkey tag added |
| 2000 | 1,2,3,5 | S, F | 4/15-5/25; 9/15-10/31 | 41, 31 | G, C | No | N/A | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | 1 st year use of dogs allowed fall |

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|--------------------------|-----------------------------------|-----------------------|----------------------|-------------|--------------------------------|---|---|
| 2001 | 1,2,3,5 | S, F | 4/15-5/25; 9/15-9/30 | 41, 16 | G, C | No | N/A | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2002 | 1,2,3,4,5,6 | S, F | 4/15-5/25; 9/15-12/10 | 41, 73 | G, C | C | 4/15-4/30 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2003 | 1,2,3,4,5,6 | S, F | 4/15-5/25; 9/15-12/10 | 41, 67 | G, C | C | 4/12-4/25 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2004 | 1,2,3,4,5,6 | S, F | 4/15-5/25; 9/15-12/10 | 41, 67 | G, C | Yes | 4/10-4/11 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | 1 st year for general youth season |
| 2005 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 88 | G, C | Yes | 4/9-4/10 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2006 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 88 | G, C | Yes | 4/8-4/9 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2007 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 88 | G, C | Yes | 4/7-4/8 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|--------------------------|-----------------------------------|-----------------------|----------------------|-------------|--------------------------------|---|-------|
| 2008 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/12-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2009 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/11-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2010 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2011 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2012 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2013 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2014 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |

| Year | Regions with season | Spring or fall | Dates | Season length ^a (days) | General or controlled | Youth general season | Youth dates | Sex | Weapon types | Notes |
|------|---------------------|----------------|--------------------------|-----------------------------------|-----------------------|----------------------|-------------|--------------------------------|---|---|
| 2015 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2016 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2017 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 9/15-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2018 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 8/30-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | Daily spring bag limit changed to 2 bearded birds |
| 2019 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 8/30-12/31 | 41, 108 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | |
| 2020 | 1,2,3,4,5,6,7 | S, F | 4/15-5/25; 8/30-1/31 | 41, 139 | G, C | Yes | 4/8-4/14 | S - Bearded; F - Either sex | Shotgun (including muzzleloader), archery (no crossbow) | 1 st year Jan season |

^aSeason length = earliest opening date and latest ending date statewide

APPENDIX ~~CD~~. ALTERNATIVE METHODS FOR WILD TURKEY POPULATION MONITORING.

Capture-Mark-Recapture

Capture-Mark-Recapture (CMR) is the optimum method to derive population estimates, widely used in wildlife research, and based on sound theoretical methods (Seber 1982, White et al. 1982, Pollock 2000). In addition to generating a population estimate, CMR methods may also provide managers with information on survival, recruitment, movements, and habitat use (Pollock 2000, Fuller et al. 2005). However, meeting assumptions of CMR models, such as population closure over a specific time period or equal capture probability of age and sex classes, can be difficult in wild populations. Therefore, implementation of this method often requires a large investment of time, labor, and financial resources.

Direct Counts

Direct counts are widely used to enumerate wildlife populations. Accordingly, they are commonly used to assess wild turkey populations (Healy and Powell 2000). Direct counts are not a census, but can provide a general index to detect trends in local populations (Anderson 2007, Wakeling et al. 2019).

In western states, winter is the most advantageous time to evaluate turkey populations because they naturally congregate on winter ranges. Reduced amounts of vegetation during this time of year allow for improved detectability at roost sites; and congregation of turkeys at artificial feeding sites, such as livestock feeding areas, further increases observability. Wakeling et al. (2019) recommended annual winter counts be conducted in the same locations and at the same time of year (January or February) over a relatively short time period of 2 to 3 weeks. However, several sources of error or bias occur when comparing annual winter counts because number of turkeys at a site in a particular year is influenced by weather conditions, survey timing, available roost sites, behavioral dominance, and food availability (Sandrini 2003, Zornes and Lanka 2007). Due to these factors, winter counts may only be useful for tracking population changes in a limited area before all feeding sites in an area have reached saturation (Sandrini 2003, Anderson 2007).

Flock composition and brood surveys are another way to index turkey populations. Managers frequently use summer brood and composition surveys to assess annual production because young of the year can easily be distinguished from adults. Production data are commonly collected in August and measure poult:hen ratios or ratios of hens with broods (Wakeling et al. 2019). These data are important because poult production and survival appear to have the largest effect on turkey population dynamics (Pollentier et al. 2014). However, more survey effort is often required for summer surveys because turkeys are more widely distributed across the landscape. Managers also use winter flock composition (i.e., post-season age and sex ratios) surveys to determine effects of harvest (Wakeling et al. 2019). However, determining age ratios can be problematic at this time of year because young-of-the-year hens are often too large to be distinguished from adult hens (Wakeling et al. 2019).

Roadside Surveys and Distance Sampling

Roadside surveys are a common method used to sample a variety of upland game species (Healy and Powell 2000). An observer drives a set transect at the same time each year, and counts turkeys observed to generate an index or minimum count.

Distance sampling can be added to roadside surveys to generate a population estimate. However, distance sampling from a road, using line-transect methods, violates 2 key assumptions. First, non-random locations of roads violates the need for line transects to be randomly located. Secondly, line-transect methods assume distribution of animals is not influenced by the transect, and this assumption may be violated when the transect is a road. Target animals may be attracted to the road, inflating population estimates, or avoid the road, leading to reduced estimates (Butler et al. 2005). Observers may miss some flocks due to dense vegetation, particularly in autumn. Winter roadside surveys have less bias, lower relative variability, and greater power than autumn surveys (Butler et al. 2007a). Regardless of whether distance sampling is added to roadside surveys, the resulting population of inference is turkeys occupying areas near roads, not the entire population of turkeys in the area.

Brood surveys can also be conducted along roads during summer months to provide an index to annual production. Productivity indices may be poult:hen ratios (Bond et al. 2012) or proportion of hens without broods (Wakeling et al. 2019). In general, large stable populations should display lower recruitment, whereas small, increasing populations exhibit greater recruitment (Bond et al. 2012).

In summary, road-based sampling methods can provide an efficient, effective, and inexpensive technique for monitoring wild turkey populations (Butler et al. 2007a), but are best suited to open habitats with ample visibility.

Aerial Surveys

Researchers have used aerial surveys to estimate turkey populations. Aerial surveys are flown using aircraft during winter months when visibility (or detection probability) is increased. Habitat (i.e., vegetation cover) influences detectability or sightability, as does flock size. Counting error is higher in larger flocks, and simulations suggest fixed-wing aerial survey techniques may underestimate abundance by 10–15% (Butler et al. 2007b). Aerial surveys from a helicopter produced somewhat more accurate abundance estimates with 94.7% detectability (Butler et al. 2008).

Estimates calculated from aerial surveys exhibit less bias than roadside distance sampling; however, due to cost and potential risk to observers, aerial surveys may not be a practical option. Emerging methods using unmanned aerial vehicle (i.e., drone) technology or aerial infrared imagery from a drone or fixed-wing airplane, may be available for future estimation projects.

Alternative Methods

Alternative methods to traditional visual counts have been used to monitor turkey populations with varying degrees of success. These include acoustic monitoring, remote cameras, track-intercept surveys, and citizen science.

Statistical Population Reconstruction (SPR)

Data from harvest surveys can be used as inputs in SPR modeling to estimate annual age-specific abundance of harvested wildlife populations (Conn et al. 2008, Skalski et al. 2011, Gast et al. 2013). An SPR model for a wild turkey management unit in Missouri (Gast 2012, Clawson et al. 2015) provided credible estimates of wild turkey abundance. This model provides annual estimates of abundance, recruitment, and harvest probability. This technique could utilize readily available data collected through harvest surveys to estimate wild turkey abundance in Idaho.

Acoustic Monitoring

Acoustic monitoring is useful for presence-absence surveys and minimum counts (Healy and Powell 2000). Researchers play gobble calls to count toms or poult-in-distress calls to coax hens and broods into areas where they are easier to detect.

Remote Camera

Remote cameras, placed randomly or at feeding sites, may allow researchers to efficiently collect minimum count and composition, or presence-absence data (Wakeling et al. 2019). This technique shows promise, but has thus far yielded mixed results with turkeys (Olson et al. 2011, Dickson et al. 2016).

Track-Intercept Surveys

Track-intercept surveys conducted in snow are used to determine turkey occupancy and are inexpensive and easy to conduct (Brower 1990). However, difficulties in relating number of tracks to number of birds present weaken estimates of abundance (Wunz and Hayden 1975).

Citizen science

Citizen science (public observations) can be useful for questions of presence-absence, distribution, and demographics of turkeys. Managers have used data from volunteers, mail-carriers (Ammann and Ryel 1963), elk (*Cervus elaphus*) and deer hunters (Healy and Powell 2000), Christmas bird counts (Wakeling et al. 2019), and breeding bird surveyors, among others. The following examples indicate how some state agencies have incorporated citizen science into their turkey monitoring programs.

New Hampshire Fish and Game Department (2021) designates summer and winter observation periods for citizens to report wild turkey observations. Summer brood surveys run from 1 June through 31 August. Citizen observers report number of hens, number and size of poults, and location (GMU). Poults are classified in 6 categories (sparrow [Passerellidae] size = chicks, robin [*Turdus* sp.] size = 2-week-olds, quail [*Colinus* sp.] size = 3-week-olds, pigeon [*Columba livia*] size = 4-week-olds, grouse [*Bonasa umbellus*] size = 6-week-olds, pheasant [*Phasianus colchicus*] size = 8-week-olds). No observations of adult male turkeys are collected. Winter flock surveys occur from 1 January through 31 March. Observers record total number of turkeys/flock and location (GMU). Observations are collected via the agency website.

Massachusetts Department of Fish and Game (2021) also administers a summer brood survey from 1 June through 31 August. Citizen observers report number of hens, number and size of poults, number of juvenile and adult toms, and location (GMU). Observations are collected via the agency website.

Delaware Division of Fish and Wildlife (undated) employs a volunteer-based survey to record observations of wild turkeys across the state during July and August. The primary purpose of this survey is to generate an index of annual turkey productivity and recruitment, expressed as the poult:hen ratio. Participants are asked to report sightings of turkeys during the course of their daily activities by recording date and number of gobblers, hens, and poults observed. If participants are unable to distinguish age or sex of birds, they are recorded as unknown. Participants are also asked to record the Turkey Management Zone in which each encounter occurred.

APPENDIX ~~D~~E. PREVENTION AND CONTROL OF DAMAGE BY WILD TURKEYS.

Adapted from 2005 Washington State Management Plan for Wild Turkey (WDFW 2005).

| | Description | Consideration | Recommendations |
|---------------------|--|---|--|
| Non-lethal | | | |
| Stimulus | | | |
| Flagging | Reflective tape, kites, other visual stimulus | Birds may become habituated | More effective if used in conjunction with other techniques |
| Audio devices | Sirens, turkey distress call | Birds may become habituated | More effective if used in conjunction with other techniques |
| Predator decoys | Silhouettes, full body decoys, scarecrows, powered moving objects | Birds may become habituated | More effective if used in conjunction with other techniques |
| Physical hazing | Wide range of techniques, including roost disturbance | Time consuming if used as long-term solution | Can be used to reinforce other hazing |
| Pyrotechnics | Includes cracker shells, propane canons, rockets | A signed pyrotechnics release is required prior to issuing to a landowner | Bureau of Alcohol, Tobacco, and Firearms regulations may apply to certain pyrotechnics |
| Dogs | Dogs trained to aid in hazing wildlife | Consider proximity to neighbors; cost to train a dog may be prohibitive | Can be used to reinforce other hazing |
| Projectiles | Rubber bullets, paintballs, slingshots | Wildlife injury risk is low, but possible | Can be used to reinforce other hazing; use pyrotechnic release form prior to authorizing landowner use |
| Chemical applicants | Several products are available to make crops or plants distasteful | Generally expensive and short duration | Follow product labels |

| | Description | Consideration | Recommendations |
|-------------------------------|---|---|--|
| Non-lethal^a | | | |
| Exclusion | | | |
| Fencing | Erect fencing, fine mesh, or tarps around area of concern | Turkeys usually will not fly into a garden or small haystack with a deer fence around it | Covering with netting is not usually necessary for small areas |
| Netting | Used to cover haystacks, gardens | Use if fencing cannot be installed (winter) or has not worked alone | Turkeys usually will not walk on netting even if they could reach through it to obtain food |
| Obstacles | Straw bales, boards, tarps to create a physical barrier | Use in conjunction with other techniques | Do not need to restrict actions to one-size-fits-all methods |
| Diversion | | | |
| Food removal | Remove available food sources (e.g., bird seed) | Provide information regarding activities that can lead to turkey nuisance or depredation problems | |
| Supplemental feeding | Feed birds to lure them away from areas where they are causing damage | Effective short term, but can generate long-term problems | Use only as a short-term action when long-term solutions have been identified |
| Food plots | Short-term forage plantings | Recurring costs add up over time; may be compatible with HIP funding | Most cost-effective as part of a larger agriculture or habitat system; work with landowners to identify mutually beneficial approaches such as paying to leave grain field edges and corners, supplement cover crops, or work within crop rotation plans |
| Landscape habitat | Identify landscape limitations to turkey populations and resolve | Best solution to increase turkey abundance while preventing damage | Consider planting mast producing trees or shrubs as a long-term alternative to feeding and short-term food plots |

| | Description | Consideration | Recommendations |
|--|---|---|--|
| Lethal, public engagement | | | |
| Existing hunting seasons | Work with landowners and hunters to coordinate hunting with nuisance and depredation problems | Within limits of privacy and landowner desires, direct hunter harvest to address surplus turkey populations | Negotiate short-term and long-term access contracts |
| Special Unit Turkey Hunts (May be called a "depredation hunt") | Units and parts of units can be added to the Special Unit Turkey designation at any time | Tags are less expensive, which can increase participation | This designation provides much flexibility for local managers |
| Lethal, by landowner | | | |
| Kill permit | Allows landowner to shoot turkeys to reduce damage | Issuing biologist or officer should consider social and economic ramifications | Local biologist and officer work with landowner on terms and conditions of the permit |
| Wildlife control agent | Acts as an agent to remove turkeys causing damage, functioning under a kill permit | Use when landowner is unable to execute a kill permit | |
| Lethal, by Department | | | |
| Department | Acts as an agent to remove turkeys causing damages | When damage has not been alleviated through other means | Action requires Regional Supervisor or Wildlife Bureau Chief approval |
| Trap and Move | | | |
| Trap and translocate | When used strictly as a damage management tool, turkeys are trapped in an area where they cannot be safely or ethically lethally removed and relocated to an area open to hunting | Very expensive when used to control damaging wildlife; may be a good source population for live bird requests | External factors are very important, including ultimate destination for trapped birds, volunteer commitment to defer staff costs, etc. |

APPENDIX ~~EF~~. WILD TURKEY HABITAT SUITABILITY EVALUATION.

Adapted from Wyoming Game and Fish Department wild turkey evaluation criteria (unpublished report).

Idaho Wild Turkey Habitat Suitability Evaluation

--Circle points for appropriate answer for each criteria and sum scores--

CRITERIA:

(1) Contiguous wild turkey habitat at release site area.

- 1 pt >4,400 acres
- 2 pts 2,200–4,400 acres
- 3 pts <2,200 acres

(2) Rank only (a) or (b) depending release location.

(a) Ratio of forest openings:

- 1 pt 20–50% openings
- 2 pts 10–20% openings
- 3 pts >50% or <10% openings

(b) Riparian habitats with shrubs and grasses.

- 1pt Average riparian width >400 feet, healthy native perennial herbaceous and shrub understory
- 2 pts Average riparian width <400 feet, or only moderately healthy native perennial herbaceous and shrub understory
- 3 pts Average riparian width <400 feet, or understory heavily utilized or dominated by undesirable non-native plants

(3) Distance of cover habitat from water is:

- 1 pt <1 mile
- 2 pts 1–2 miles
- 3 pts >2 miles

(4) Availability of food sources. Includes hard mast in the form of acorns or pine seeds, etc.; soft mast in the form of hawthorn, hackberry, buffaloberry, chokecherry, sumac, snowberry, etc.; or grain crops such as wheat, oats, barley, or corn. If normal cultivation practices in the area include fall plowing, this limits availability of grain to a 1–2 month period during late summer to early fall and is not considered an available food source for this criteria.

- 1 pt Abundant hard and soft mast most years
- 2 pts Soft mast or grain crops only; or irregular occurrence of hard and soft mast
- 3 pts Limited natural food sources

(5) Brood-rearing habitat. Abundance of herbaceous vegetation (grasses and forbs) and shrub cover in close proximity to forest cover or other escape cover.

- 1 pt >30% herbaceous vegetation and shrubs
- 2 pts 10–30% herbaceous vegetation and shrubs
- 3 pts <10% herbaceous vegetation

(6) Availability of roost trees having an open, horizontal branch structure that are located away from high-use recreational areas. Wild turkeys typically use conifers such as ponderosa pine, and often make use of deciduous roost trees such as cottonwoods along riparian habitats. Large dead or dying trees may also be used.

- 1 pt Abundant roost trees throughout area (≥ 12 inches diameter-at-breast-height)
- 2 pts Roost trees are present in some areas or scattered throughout release site
- 3 pts Few or no roost trees

(7) Contact and solicit input from landowners located in or directly adjacent to the release site prior to releasing turkeys.

- 1 pt Unanimous landowner support
- 2 pts Few concerned landowners
- 3 pts Significant landowner opposition

(8) Probability of turkeys coming in contact with domestic fowl at the release site:

- 1 pt Almost never
- 2 pts Occasionally, but only during winter
- 3 pts Regularly during winter, or intermittently during rest of year

(9) Wild turkeys can survive harsh winter conditions with abundant, easily accessible food. If access to food is limited by deep snow for as little as a few weeks, survival rates can decrease substantially. Limit considerations for this ranking to the winter period in winter habitat. During winter:

- 1 pt Several winter food sources available and spread out over winter habitats, snow depth very rarely >1 foot for ≥ 20 days, presence of springs provides open access to food sources
- 2 pts Winter food sources unreliable or localized, winter survival occasionally depends on supplemental feeding or livestock operations, or snow depth occasionally >1 foot for ≥ 20 days
- 3 pts Winter food sources limited, winter survival depends on supplemental feeding or livestock operations, or snow depth regularly >1 foot for ≥ 20 days

(10). Suitable winter habitat for wild turkeys is described as low-elevation habitat that provides roost trees and food resources, as well as south and easterly aspects for natural foraging. Proposed release location must occur within wild turkey winter range habitat map (to be developed) or have a cumulative score of ≤ 4 for criteria questions 4, 6, and 9.

- 1 pt Release location is identified on winter range habitat map as potential new turkey winter habitat or has a cumulative score of <4 for criteria questions 4, 6, and 9
- 3 pts Release location is not identified on winter range habitat map as potential new turkey winter habitat and does not have a cumulative score of <4 for criteria questions 4, 6, and 9

FINAL SCORE: Summation of criteria scores = _____

10 = Optimal habitat

11–29 = Marginal habitat: Regional and Bureau of Wildlife management direction required

30 = Unsuitable habitat

APPENDIX **FG**. IDAHO WILD TURKEY EMERGENCY WINTER FEEDING GUIDELINES.

The Department only supports emergency winter feeding when there is a(n):

- Actual or imminent threat of damage to private property; or
- Threat to public safety.

Estimated amount of feed to use per day

| Number of turkeys | Gallons of feed |
|-------------------|-----------------|
| 15 | 0.5 |
| 30 | 1 |
| 60 | 2 |
| 90 | 3 |
| 120 | 4 |
| 150 | 5 |
| 180 | 6 |
| 225 | 7.5 |

TURKEY WINTER FEEDING RECORD

Staff, complete the below data sheet to document individuals who cooperated with the Department to implement emergency winter feeding. Store completed data sheets in regional offices to maintain a historical record of when and where emergency winter feeding has been implemented in each region.

| | |
|---|----------------------------|
| Date Contacted: _____ | |
| Name: _____ | |
| Address: _____ | |
| Phone number: _____ | |
| Emergency feed site location: _____ | |
| GPS location: | |
| | N: _____ |
| | E: _____ |
| Estimated number of birds: _____ | |
| Type of feed and amount: _____ | |
| Estimated amount of feed used: _____ (lbs/week) | |
| Source of feed: _____ | |
| Date feeding commenced: _____ | Date feeding ceased: _____ |