

STRATEGIC PLAN FOR WILD TURKEY MANAGEMENT

2019-2028
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**Florida Fish and Wildlife
Conservation Commission**

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Acknowledgements

This strategic plan updates and revises the previous 10-year wild turkey strategic management plan which expired in 2018. As with the earlier plan, this new plan includes perspectives from a broad array of the divisions and offices within the Florida Fish and Wildlife Conservation Commission (FWC). It also includes input from FWC stakeholders, meaning those individuals or groups that have an interest or concern with respect to Florida's fish and wildlife resources, specifically the state's wild turkey resource.

The Wild Turkey Standing Team (WTST) was instrumental in development of this plan. The WTST is a permanently established "steering committee" consisting of FWC personnel from various divisions and offices and representatives of the National Wild Turkey Federation (NWTf). This group reviewed the previous plan and revised its various objectives, strategies and tasks to produce the new plan. A team facilitator and recorder were enlisted and proved essential to helping the team move efficiently through the revision process, including updating the goal statement and identifying the main objectives. The revision process included formation of three "sub-teams" composed of team members who tackled the major task of developing the initial strategies and tasks required to achieve the six main objectives. Scheduled meetings and conference calls with the full WTST were conducted to discuss and obtain input on each of the objectives, strategies and tasks which were drafted by the individual sub-teams.

The initial draft of the strategic plan was reviewed by the WTST following compilation of all report sections into a single document. Another internal review was conducted by the WTST sponsors, various FWC leadership and other agency staff. A final draft was then prepared and submitted to agency stakeholders for comment (see Appendix B). Comments from all entities were considered and changes were made to the strategic plan as appropriate.

We wish to express appreciation to the following organizations and individuals who reviewed and provided valuable input that benefited the management plan:

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EXECUTIVE SUMMARY

The FWC has a long and rich history conducting wild turkey research and management and providing associated recreational opportunities. The continuation of these activities, and maintenance of Florida's wild turkey populations, will require concerted effort from the FWC, along with assistance from various state and federal agencies, non-governmental organizations, private landowners and citizens. To be successful in these continuing and future endeavors, it is critical that appropriate planning occur.

The goal statement and six objectives identified in this strategic plan were developed through a facilitated process involving members of the Wild Turkey Standing Team. The overarching goal of the plan is to "Ensure healthy wild turkey populations throughout Florida while providing and promoting compatible and sustainable use of the resource." The objectives identify six areas for focusing management attention over the next 10 years and address wild turkey populations, habitat, hunting, non-consumptive recreational uses and public awareness and support for wild turkeys.

The strategies and tasks associated with the individual objectives are those activities identified as necessary to achieve these objectives and the plan's goal. Strategies associated with the population objective address monitoring of statewide population levels; developing tools for surveying and monitoring local populations; implementing a disease-monitoring and response protocol; and plans for restoring populations when and where warranted. Strategies under the habitat objective outline plans for assessing the quality and quantity of habitat suitable for wild turkeys across the state; activities to improve existing habitat on public and private holdings; and efforts to provide support for long-term conservation of additional habitat acreage. Two objectives relate to turkey hunting and deal with the number and diversity of turkey hunters, and the satisfaction these hunters have with opportunities provided to them. Strategies to address these objectives include efforts to engage and support new and returning hunters; monitoring the number, as well as the diversity, of turkey hunters; efforts to increase access to hunting opportunities; making regulatory adjustments as appropriate to improve satisfaction; and promoting regulatory compliance and safe turkey hunting behaviors. With respect to the non-consumptive recreational use objective, the plan proposes to encourage such use and to seek ways to engage participants in wild turkey management through citizen science platforms. Strategies concerning the last objective—awareness and support by the general public—address targeted marketing, general conservation messaging and monitoring for and addressing potential human/wild turkey conflict issues.

Accomplishment of the tasks identified within this strategic plan exceeds the staffing capabilities of the Wild Turkey Management Program. Therefore, full implementation of this plan will require assistance and direct involvement of FWC

staff from various divisions and offices as well as other non-FWC agencies, organizations and stakeholders.

As with any long-term planning effort, a certain amount of flexibility is essential in order to accommodate changing conditions associated with agency directives, staffing, funding, or other issues. As such, this plan should be considered a “guiding tool,” and should be revised as conditions necessitate.

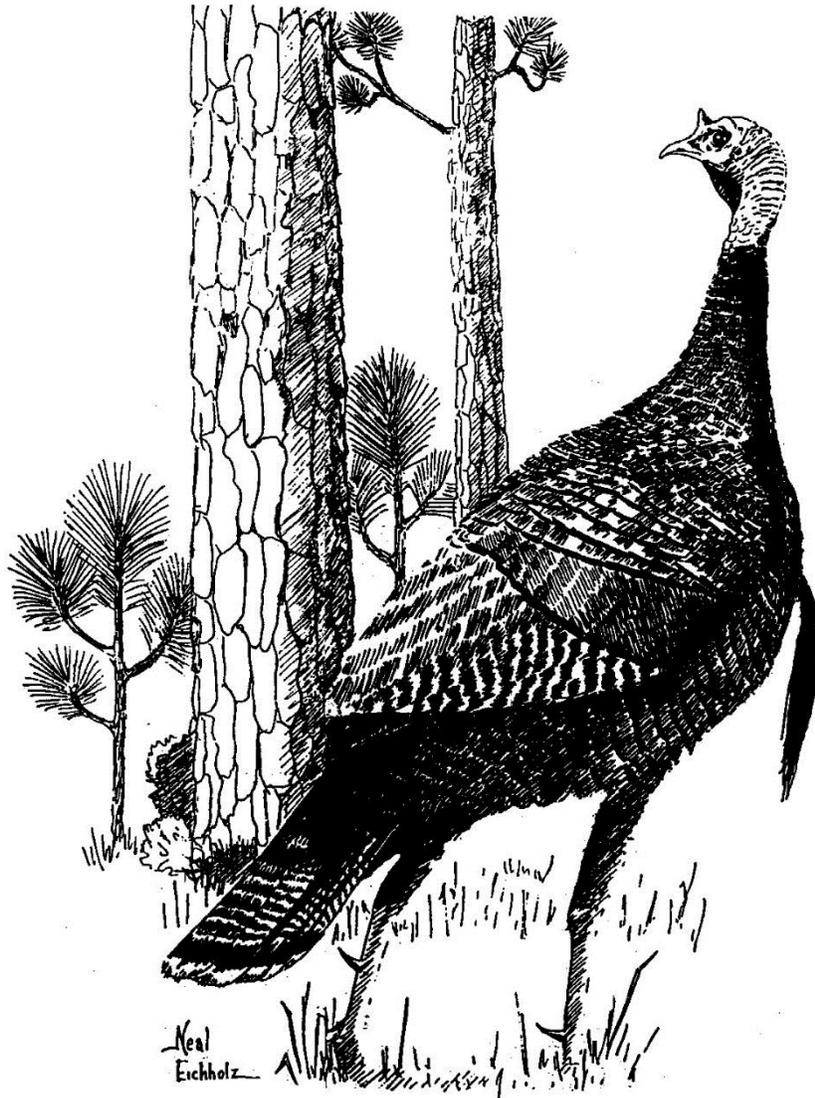


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INTRODUCTION

Florida has a rich history of wild turkey research and management. The state was fortunate to have abundant wild turkey populations long after they had dwindled throughout most of the eastern United States. Despite growing pressures on our natural systems today, there are still over 28 million acres of undeveloped lands in Florida (Zwick and Carr 2016), much of which supports, or is capable of supporting, healthy numbers of wild turkeys.

With respect to specific conservation efforts for Florida's wild turkeys, in 1985 the Florida Legislature passed the Florida Wild Turkey Stamp Act (Chapter 372, S. 5715, Florida Statutes) for the purposes of expanding research on and management of the wild turkey, and to increase wild turkey populations in the state. This statute requires that all Florida turkey hunters purchase an annual turkey permit, or a license that includes this hunting privilege, unless exempt from licensing requirements. Revenues generated from these permit sales gave rise to the creation of the FWC Wild Turkey Management Program (WTMP), which has primary responsibility for the health and welfare of the state's wild turkey resource.

The following strategic plan for wild turkey management evolved from several previous planning efforts. In 1990, soon after its creation, the WTMP developed an initial planning document (Eichholz and O'Meara 1990), which was revised in 1995. This document laid out a plan for activities the program would implement to monitor and manage the statewide wild turkey population. A decade later, the plan had become substantially outdated. Many of the tasks identified in the original plan had been completed, while new activities were taking place that the original plan had not included. Additionally, reorganization of the FWC on July 1, 2004 established a new era for FWC, and with it the need to consider and address planning from an "agency-wide perspective," rather than the narrow confines of the WTMP alone.

Consequently, the FWC undertook a planning effort to develop a new strategic plan for wild turkey management. The process involved creation of a Wild Turkey Standing Team (WTST) to guide development of a well-rounded, broad-thinking approach to wild turkey management. While the bulk of the WTST was comprised of FWC employees, representatives from the NWTF were also included as a means of obtaining external stakeholder input. The finished product, which outlined a goal statement, four primary objectives and a number of strategies and tasks necessary to achieve the objectives, was approved in 2008 and has guided wild turkey management in the state for the past 10 years. However, like its predecessor plan, there was a need to update the plan to better direct future management, research and public use of Florida's wild turkey resource. This current 10-year plan is the result of these revision efforts.

History of Wild Turkeys in Florida

At the time of European settlement, wild turkey populations occurred in most forested habitat of the eastern United States. However, by the end of the nineteenth century, wild turkeys had been eliminated or greatly reduced in numbers throughout most of this range (Williams 1981). While extensive land clearing that occurred during this century certainly played a role in their demise, over-hunting was believed to be the principle cause for this decline, as habitat changes associated with deforestation and early agriculture practices came after local wild turkey populations had been eliminated, and these landscape practices would likely have been beneficial for improving wild turkey habitat (Williams 1981).

Florida was unique during this early decline in wild turkey populations because inaccessible swamps, inhospitable insects and colonial history did not favor settlement here as in other states (Eichholz and O'Meara 1990, Williams 1992). The absence of large communities and widespread agriculture and the abundance of forested swamps and uplands provided natural refuges for Florida's wild turkey populations, and Floridians enjoyed turkey hunting when most of the country had few, if any, wild turkeys to hunt (Eichholz and O'Meara 1990).

Settlement of Florida occurred slowly through the first half of the 20th century, but eventually improved road systems and an increase in privately-owned automobiles opened access to the state (Williams 1992). As a result of uncontrolled and indiscriminate hunting pressure from man, wild turkey populations began to suffer. While wild turkeys persisted in Florida, a combination of liberal hunting seasons and bag limits and limited law enforcement during this period resulted in low or absent wild turkey populations throughout much of the state. In 1947-48, the Florida Game and Fresh Water Fish Commission (now the Florida Fish and Wildlife Conservation Commission) initiated a habitat and wild turkey population study that estimated the statewide population at approximately 26,000 and determined that 15 counties were estimated to have 50 or fewer wild turkeys and six counties reported being without any wild turkeys (Newman and Griffin 1950). Consequently, the Commission directed the restocking and establishment of wild turkey populations on private lands and on public wildlife management areas (WMAs) where suitable habitat existed. From 1949 through 1970 (completion date for the statewide wild turkey restoration project), more than 6,000 wild turkeys from remaining populations in Florida were captured, banded and released into suitable habitats throughout Florida (Williams and Austin 1988). Since that time, habitat management and protection have become a primary focus for maintaining or improving Florida's wild turkey population.

Life History and Habitat

Ecologically, wild turkeys are considered to be a "prey species" and have evolved as a common food source for numerous animals. In Florida, wild turkey eggs, young (poults) and adults are preyed on by such animals as bobcats (*Lynx rufus*), raccoons (*Procyon lotor*), skunks (*Mephitis mephitis* and *Spilogale putorius*),

opossum (*Didelphis virginiana*), foxes (*Vulpes vulpes* and *Urocyon cinereoargenteus*), coyotes (*Canis latrans*), panthers (*Puma concolor*), feral hogs (*Sus scrofa*), armadillos (*Dasypus novemcinctus*), bald eagles (*Haliaeetus leucocephalus*), crows (*Corvus* spp.), owls, hawks and a variety of snakes. Wild turkeys have adapted to being a prey species in part by having a high reproductive potential. Wild turkey hens have the capacity to lay large clutches of eggs. In an extensive Florida study, the average clutch size was found to be 10.3 eggs (Williams and Austin 1988). If a nest is destroyed, the hen will quite often reneest. Wild turkeys are also polygamous, with males capable of breeding multiple females, which further aids in reproductive potential.

The breeding season of the wild turkey begins in mid-winter and lasts through the spring. It is triggered by increasing day length and the advance of warmer weather. Males often start gobbling and displaying in January and February and will generally continue into May. Females are apparently not receptive for breeding at the initial onset of male breeding activities (Williams and Austin 1988; Healy 1992). Also, while gobbling may begin earlier in south Florida than other parts of the state, Williams (1991) reported that nesting chronology for the peninsular part of the state is generally the same, and that the nesting season is probably only about a week later in the Florida panhandle and along the Georgia/Florida line.

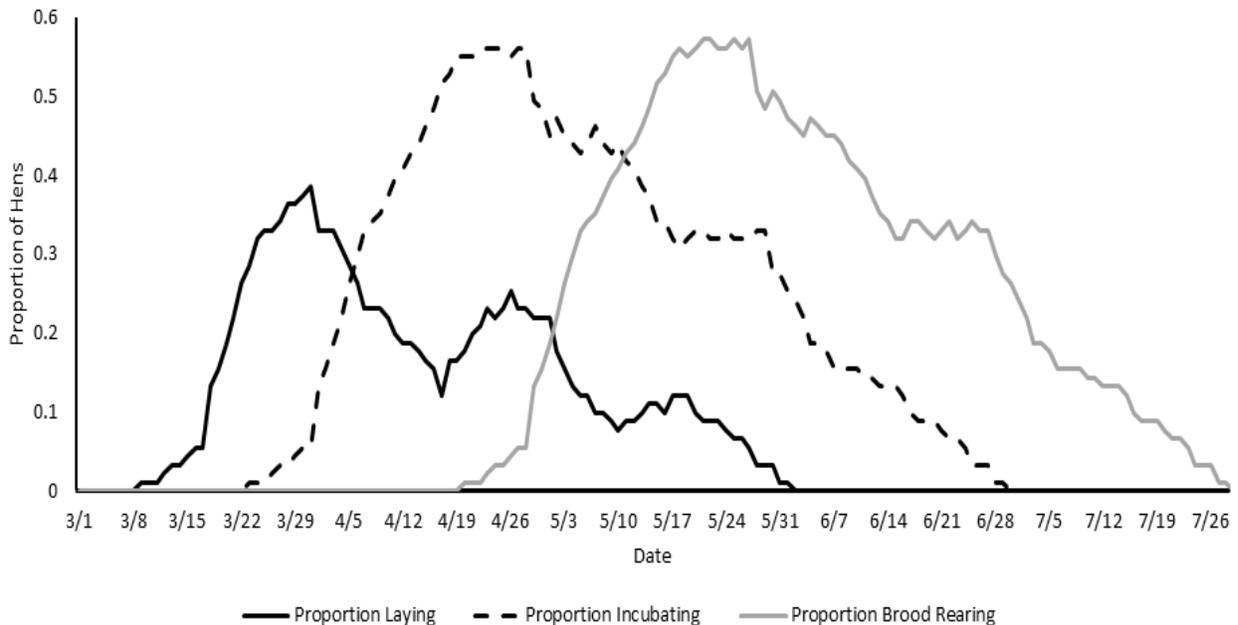


Figure 1. Theoretical nesting season based on known incubation initiation dates of 91 female wild turkeys in northern Florida, 2014-2016 (Alachua, Leon and Madison counties, Florida).

The nesting season in Florida is generally mid-March through June (Fig. 1). Wild turkey hens create a slight depression on the ground in thick vegetation in which to lay their clutch of eggs. Laying takes place for about two weeks, followed by an incubation period of 26-28 days. Hens provide the sole care for nests and successfully hatched broods.

Brood rearing begins with the hatching process, which also results in the poults being “imprinted” to the female, creating a strong social bond (Healy 1992). The female, with her brood, normally leaves the nest within 24 hours of hatching. As a further adaptation to the threat of predation, wild turkey poults develop limited flight capability by the time they are eight days old and normally begin roosting in trees at about two weeks of age (Williams and Austin 1988, Healy 1992). Roosting in trees affords young wild turkeys greater protection from predators and by three weeks of age their chance of survival increases considerably. Feeding comprises the bulk of their activity with insects making up the majority of a young poult’s diet. However, exceptions have been reported such that in some cases plant material has been the dominant food source, suggesting that food availability and abundance may be a significant factor influencing diet composition (Hurst 1992).

Brood-range size increases over time and is quite variable, but will generally encompass 250 to 500 ac. during the summer (Healy 1992). Seasonal and annual home ranges of wild turkeys are also quite variable and largely depend on habitat quality relative to the abundance and availability of food. Annual home ranges may vary from 350 to 1360 ac. (Brown 1980), but may exceed 2000 ac. in poor quality habitat (Williams 1991).

High mortality is a significant aspect of wild turkey life history. Its role as a prey species is well illustrated by the fact that approximately 70% of poults will not survive beyond two weeks of age (Williams and Austin 1988) and overall life expectancy is estimated to be only about 18 months. While survival increases substantially after three weeks of age, it is rare that a wild turkey will survive to even five or six years of age. Reports exist, however, of banded wild turkeys living beyond 10 years of age (Powell 1965, Williams and Austin 1988).

The primary components of wild turkey habitat are: roosting, nesting, brood rearing, foraging and escape cover. Roosting habitat consists of forested areas that generally provide a “screening effect” such that wild turkeys are not readily observable or approachable by predators, and are protected somewhat from adverse weather. Nesting habitat is normally composed of fairly dense ground-cover vegetation, approximately three feet in height, which provides concealment for an incubating hen in all directions. For brood rearing, hens seek grassy, open areas with abundant insects and nearby escape cover. Escape cover is comprised of moderately dense vegetation and/or trees that a wild turkey can run, or fly to, in order to escape predators or disappear from view. Foraging habitat is similar to

brood rearing habitat, but the proximity of nearby escape cover is not as important as turkeys attain adult size and mobility.

These habitat components occur in a wide variety of vegetative communities naturally interspersed across Florida. Pine flatwoods are interlaced by cypress ponds and strands, hardwood stream bottoms and cabbage and oak hammocks; lakes surrounded by cypress, bayheads or oak hammocks are commonly associated with pine-oak sand hills; and prairie lands are frequently dotted with cabbage palm and oak hammocks. Several man-made cover types are also useful as wild turkey habitat, including clear cuts and other forest openings, improved pastures, hayfields and cultivated fields (Williams 1991). Natural interspersions of these various cover types provides excellent wild turkey habitat.

In Florida and much of the southeast, many of the vegetative community types wild turkeys rely on to meet their habitat requirements were historically maintained with frequent natural fire events. Today, these natural fire events have largely been replaced by carefully planned prescribed fires. Land managers conduct prescribed fires to reduce fuel loads (thereby reducing risk of wildfires) and to maintain vegetative conditions required by many game animals and imperiled species. On these fire-adapted landscapes, prescribed fires limit woody vegetation growth and promote herbaceous cover. When applied in a mosaic fashion, with frequent return intervals (e.g., 1-3 years), prescribed fire generates conditions that provide wild turkeys ample resources during nesting and brood rearing. Fires applied during the nesting season (March-July) have minimal negative impacts on wild turkey populations (Kilburg et al. 2014, Little et al. 2016, Pittman and Krementz 2016, Yeldell et al. 2017) because few nests are actually destroyed by fire and, as aforementioned, females that do experience nest loss are likely to re-nest. Therefore, the long-term habitat benefits of conducting growing season prescribed burns generally offset any short-term losses.

Habitat suitability is ultimately determined by the proximity and arrangement of the various vegetative community types and their associated three-dimensional structure, associated with a turkey's ability to see and easily move. In Florida, brood habitat is often the most limited habitat component for wild turkeys (Williams 1991). However, in certain settings (e.g., expansive dry prairies and extensive improved pastures) roosting habitat can also be somewhat limiting. Usually, ample nesting and escape cover is available in Florida due to the nearly year-round growing season and numerous varieties of plant species that provide these habitat needs.

Distribution and Population Status

Five subspecies of wild turkey inhabit North America, including most of the United States, parts of southern Canada, and northern Mexico. Two of these subspecies occur in Florida: the eastern subspecies (*Meleagris gallopavo silvestris*)

and the Florida, or Osceola subspecies (*M. g. osceola*), which is found only in Florida. The Osceola subspecies tends to be darker in appearance than the eastern subspecies with the most notable characteristic being its darker primary feathers. The white barring on these feathers tends to be narrow in width and they usually do not extend across the vane of the feather. The Osceola subspecies also tends to weigh less than the eastern subspecies. This may be due to its geographic location relative to Bergmann's Rule (i.e., many warm-blooded animals tend to be larger in colder climates than their relatives in warmer climates), habitat conditions, genetics, or other factors. Compared to the Osceola subspecies, white wing-barring on primaries of the eastern wild turkey is more prominent, extending across the vane of the feather and being nearly as wide as the dark barring.

With respect to the two subspecies of wild turkeys occurring in Florida, the Osceola subspecies is distributed throughout the peninsular part of the state. The eastern subspecies occurs in north Florida and through the panhandle portion of the state, but this area is really an intergrade between these two subspecies. In other words, because there is no physical barrier between the two subspecies, a wide zone exists where the two subspecies meet and intermix such that the blending of physical characteristics of these subspecies occurs (Fig. 2).

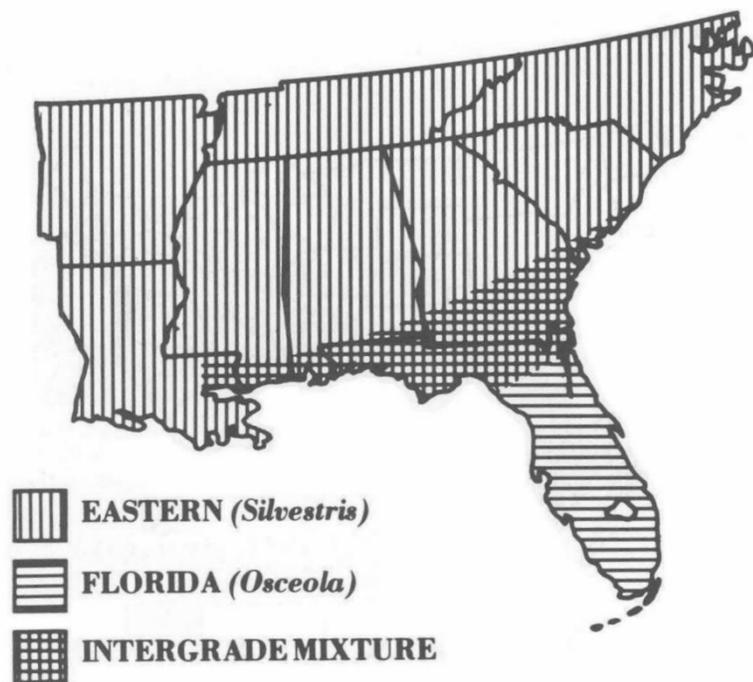


Figure 2. Range of eastern and Florida wild turkeys (from Aldrich and Duvall, 1955).

Wild turkeys in Florida are under increasing pressures associated with expanding human populations. During the past 40 years or more, Florida's human population and related development have increased at an unprecedented rate. Urbanization, intensive forest management, lack of fire and agricultural development have contributed to loss and degradation of wild turkey habitat. Habitat fragmentation resulting from these pressures has further stressed Florida's wild turkey populations (Landers and Sanders 1988). However, despite these additional pressures, wild turkeys are still well distributed across the state. In

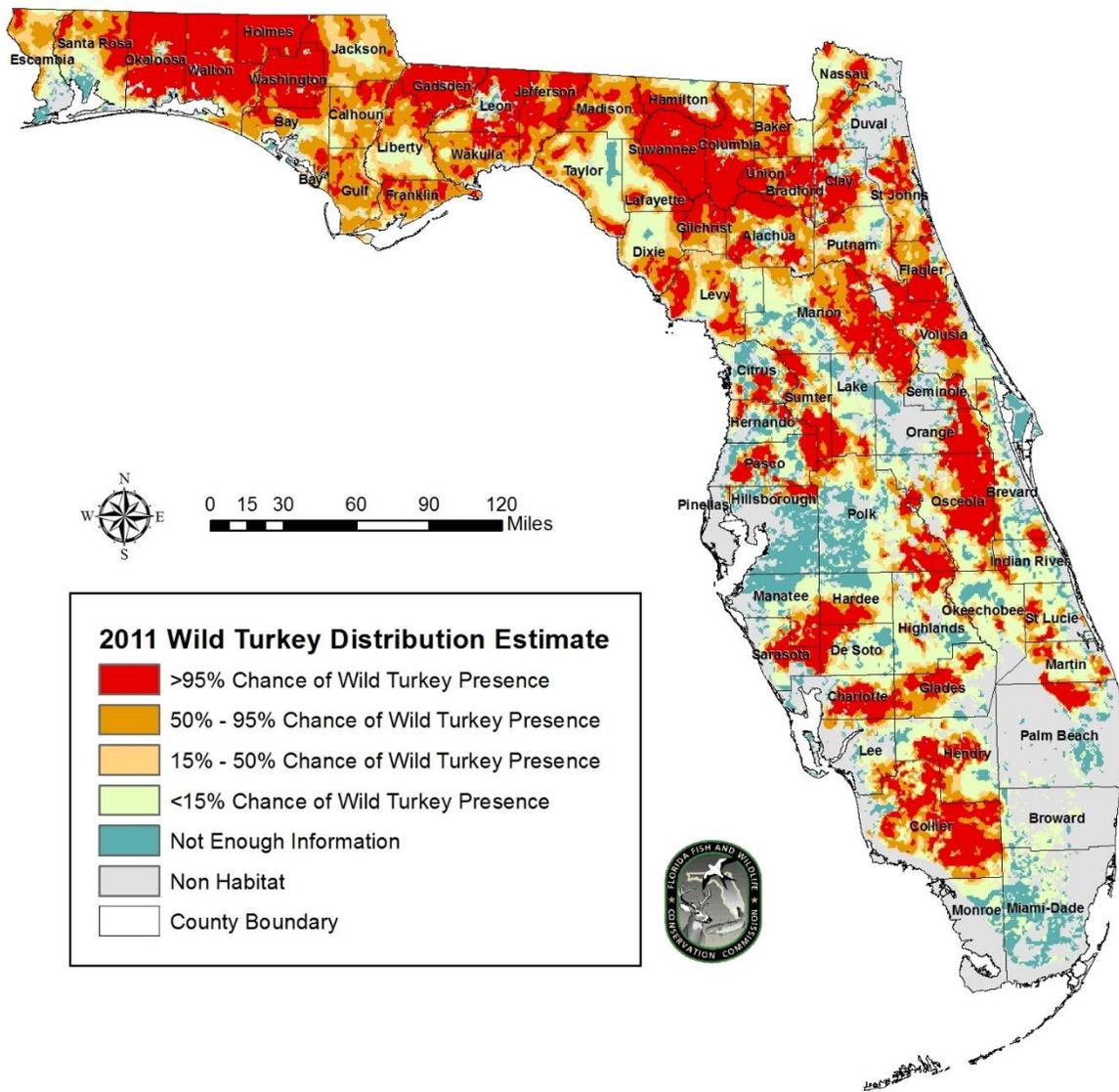


Figure 3. Statewide wild turkey distribution for 2011.

2001, the FWC conducted a statewide wild turkey distribution and relative abundance survey (Nicholson et al. 2005). In comparison to a similar survey conducted in the mid-1970's, shortly after wild turkey restoration activities were completed, the statewide wild turkey distribution largely remained the same, with some loss of presence mainly near urban centers. However, population expansion since the 1970's also occurred with an overall increase of 7,465 mi² of occupied wild turkey habitat in 2001 (38,880 mi² total occupied habitat; Nicholson et al. 2005). A similar survey was repeated in 2011 with results comparable to the 2001 distribution (Fig. 3).

It therefore appears that adverse impacts to Florida's wild turkey populations from increasing human populations, and associated habitat losses, have been offset to some degree by continued expansion of restored wild turkey populations. However, further expansion of Florida's wild turkey populations may be limited. Florida's human population could nearly double to 34 million in the next 50 years. If that happens, as a study published by 1000 Friends of Florida suggests, about 5.4 million acres of land could be converted from rural and natural to urban uses (Fig. 4; Zwick and Carr 2016). This would likely impact significant acreage of current and potential wild turkey habitat. It is not likely that further expansion of

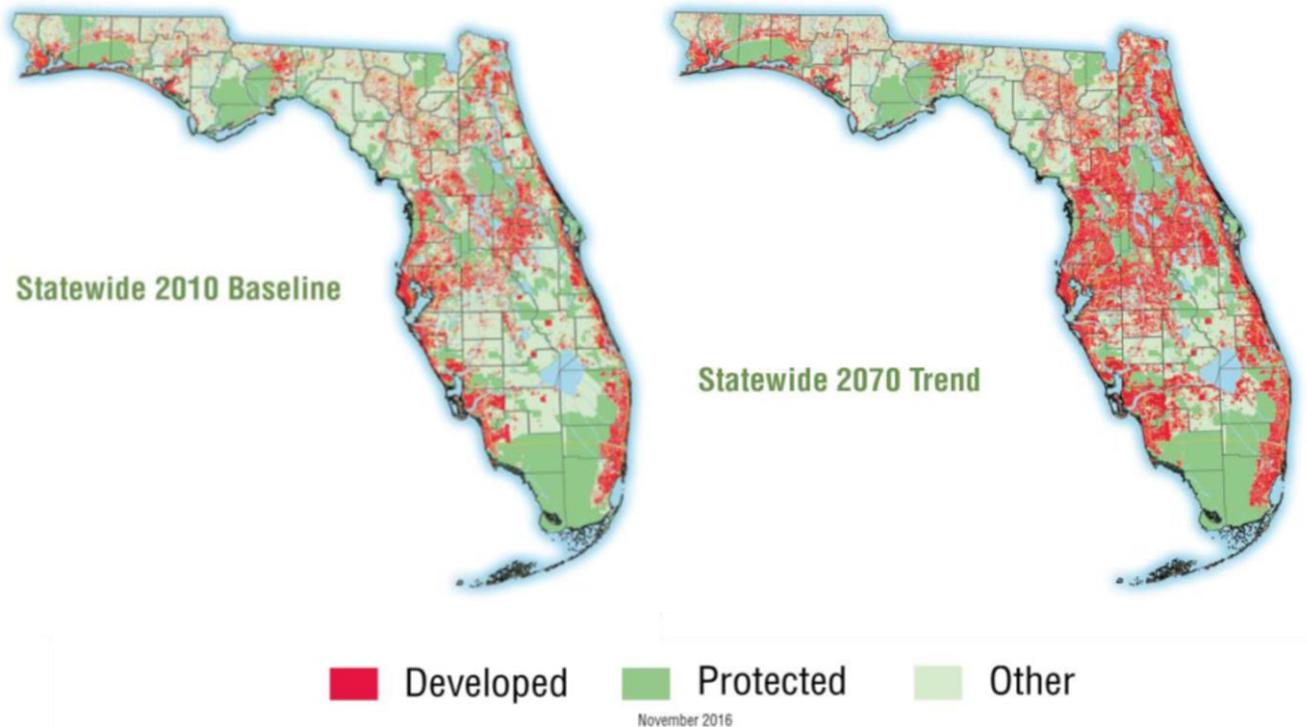


Figure 4. Florida as it was in 2010 and how it could look in 2070 if its population grows, as predicted, to nearly 34 million residents. Adapted from Zwick and Carr, 2016.

wild turkey populations will continue and be able to offset the types and scale of landscape changes projected given the growth and development expected over the next 50 years. Thus, some reductions in Florida's wild turkey population and distribution are likely.

In fact, statewide wild turkey numbers, based on harvest survey data, appear to have peaked around 2008. Harvest estimates declined by over 25% between 2008 and 2014, although recent estimates indicate numbers have stabilized somewhat. It is still unclear what led to this significant drop. Similar downward trends in harvest and annual productivity have been observed recently by many southeastern states, suggesting a broad and widespread relationship is at play. Managers are questioning the long-held notion that wild turkey populations are not influenced by density dependent interactions (Bond et al. 2012, Byrne et al. 2015), while simultaneously looking into the role habitat change, disease, predation and even hunting regulations and season frameworks might be having on population dynamics. In the face of such uncertainty, continued protection and habitat management, careful population monitoring, and conservative hunting frameworks will be needed to ensure continued well-being of Florida's wild turkey resource.

Previous Conservation Efforts: Accomplishments, Challenges and Opportunities

This strategic plan was developed to update and revise the previous 10-year strategic management plan which expired in 2018. Many of the tasks identified in this earlier plan have been completed or are ongoing; several tasks have yet to be started or completed for various reasons; and new and emerging issues are occurring that the former plan did not adequately address or have made some of the tasks irrelevant at this point.

As previously mentioned, the statewide wild turkey distribution survey conducted in 2001 was repeated in 2011. This survey made use of improving internet and GIS technology by having respondents report their observations directly onto an online GIS mapping program. This method saved many hours of data input over the previous methodology. Survey results and additional map layers were then made available to the public via an online GIS web application. This work has generated new ideas for using improved mapping applications as well as social science technologies to produce more accurate and timely distribution data and make it available to the public.

Part of the overall goal of the previous strategic plan was to manage the wild turkey resource for the benefit of people. As one of the strategies suggested, an understanding of hunters' attitudes and opinions related to wild turkey management and recreational opportunities is critical to achieving this end. Consequently, during the previous 10-year plan, FWC contracted with the University of Florida's IFAS Center for Public Issues Education to examine opinions and attitudes of resident wild turkey hunters regarding wild turkey population

status, management and associated hunting regulations. A mail survey was sent out to a random sample of 2,584 Florida residents (18 years of age or older) who had purchased turkey hunting privilege during the previous 5-year period (2011-2015). Overall, 1,046 individuals responded to the survey resulting to a response rate of 40%. Among the respondents, 710 (68%) were identified as individuals who hunted turkeys in Florida. A total of 68% of respondent turkey hunters agreed or strongly agreed that they were satisfied with current hunting regulations and half of them agreed or strongly agreed that management of the wild turkey population is better today than 10 years ago. Results from this survey have provided insight into how Florida resident turkey hunters feel about these opportunities and will be used to guide ongoing wild turkey population and harvest management activities in this 10-year strategic plan for wild turkey management.

Another major focus of wild turkey management in Florida is providing funding assistance to land managers for habitat management projects on public lands through a cooperative Wild Turkey Cost-share Program. With continuing changes in the quality and quantity of wild turkey habitat in Florida, habitat management efforts continue to be vital to the FWC's objective of maintaining wild turkey distribution across the state. This program, which began in 1994 between FWC and the Florida Chapter of the National Wild Turkey Federation (NWTF), continued to grow and expand during the previous 10-year period, providing nearly \$3.5 million in funding for management projects over this time period. In fiscal year (FY) 2015-16, the Florida Forest Service (FFS) joined FWC and NWTF as a funding partner bringing total funds from this annual program to nearly \$500,000 in FY 2017-18. Additionally, several new land management partners, particularly among the various state water management districts, are now regular participants in the program. Program direction also shifted slightly, refocusing efforts on long-term habitat management improvements and multi-year projects at a larger scale. Funding provided through this program has been extremely valuable for helping create and maintain suitable wild turkey habitat across Florida and has been a model for other states to follow.

Research helps provide an understanding of complex natural systems and is critical to properly manage any wildlife species. During the past 10 years, FWC led or participated in several meaningful research projects. With growing attention surrounding coyotes and concern over impacts they may have on game species, FWC staff completed a coyote diet study which documented wild turkeys were rarely a food item of coyotes in Florida (FWC, unpublished data). FWC staff also led projects documenting the breeding chronology of wild turkeys in north Florida and investigating the effects of broadcast supplemental feeding for quail on wild turkey behavior in the Red Hills region of north Florida and south Georgia (Griffith 2017). Along with the 14 other southeastern states, FWC helped fund research investigating the regional decline in wild turkey productivity and population numbers (Byrne et al. 2015). The FWC also took part in two external research

projects. Staff submitted tissue samples from hunter-killed wild turkeys for a study describing the distribution and frequency of Lymphoproliferative Disease Virus (LPDV), a disease of domestic turkeys in Europe but newly found in wild turkeys in the United States (Thomas et al. 2015). Staff also provided ticks and blood samples taken from hunter-harvested wild turkeys for research from the University of Florida examining the role turkeys have in transmission of several blood borne diseases spread by ticks (Hertz et al. 2017). Ongoing FWC research projects are describing nesting and incubation recess behavior of hens and estimating harvest mortality rates of gobblers.

During the previous 10-year period, FWC staff also continued long-term harvest and population monitoring data collection efforts. Spring wild turkey harvest is annually estimated via a post-season mail survey. Staff explored opportunities to convert this to an online survey but found data between the two methods were not consistent. Therefore, staff continue to estimate harvest using the standard mail survey. The FWC also maintains a WMA harvest database, which staff recently updated to improve data reliability. As part of this upgrade, staff added a component to capture wild turkey morphological data supplementary to the weekly harvest numbers previously recorded.

Despite great progress made toward accomplishment of the strategies and tasks outlined in the previous strategic plan, FWC made only minimal progress on several strategies. No defined disease monitoring plan has been developed to date. As previously mentioned, several independent research projects have focused on diseases of interest to wild turkey management; and, when reported, staff submit individual specimens for disease testing. However, these efforts are still somewhat piecemeal and haphazard. Given the number of new wildlife diseases recently detected and the potential to dramatically impact wild turkeys, as well as the potential to impact human populations, developing a thoughtful and deliberate monitoring and response protocol will be of great importance moving forward.

Fortunately, Florida has not dealt with many nuisance wild turkey issues; as a result, developing consistent policies and guidelines for addressing potential conflict issues has taken a backseat to other more pressing matters. However, as expanding development leads to increasing contact between wild turkeys and human populations, and as attitudes toward wild turkeys change, conflicts between people and wild turkeys will likely increase as will the need to address these issues directly.

General information on wild turkey biology and management is abundant and readily available. Further, land managers in general often have a personal interest and basic understanding of principles of game management and hands-on experience with land management. However, some land managers do not have as much direct knowledge and experience with land management, and their interests,

background and training are focused on non-game species and large-scale conservation. Such circumstances reinforce the need to continually provide information and guidelines for wild turkey management specific to Florida's unique landscapes and conditions to land managers, both internally and externally.

Turkey hunters and consumptive uses have historically been the predominant interests directing wild turkey management. However, recent trends suggest that participation in recreational hunting has been declining both statewide and at a national level. At the same time, participation in non-consumptive, nature-based recreation appears to be growing. Likewise, traditional demographics of hunters are changing as new generations take up the sport. Of particular mention are individuals who harvest game animals primarily as a source of local, natural food. Recognizing these various trends, the FWC increasingly seeks to engage with these individuals, and to encourage experienced hunters to share their knowledge and skills in mentoring new youth or adult hunters. Wild turkeys, as a natural draw, can likely play a role in these efforts moving forward.

PROGRAM GOAL AND OBJECTIVES

The following goal statement, objectives, strategies and tasks of this strategic plan were compiled by the WTST and are designed to help direct future research, management and public use of Florida's wild turkey resource. These plan elements were crafted in consideration of expected and continuing environmental impacts (largely associated with human growth and development), the need to ensure a social understanding and commitment for natural resource management and associated demands (consumptive and nature-based recreation) on the resource. At the same time, it was recognized that these strategic management efforts are part of a larger, agency-wide strategic planning effort. The strategies and tasks of this strategic plan help address objectives and strategies for conserving all wildlife in Florida as laid out in either the Agency Strategic Plan or in one of the strategic initiatives, which are the agency focus for the next five years. To highlight connections between this and the agency planning efforts, superscript notations referencing specific elements of the agency strategic plans are inserted where such linkages exist (see Appendix A for description of the notations and verbiage from the agency strategic planning documents).

Strategic Goal Statement:

“Ensure healthy wild turkey populations throughout Florida while providing and promoting compatible and sustainable use of the resource.”

Six objectives were identified as primary planning elements important for achieving the above program goal. Generally, these objectives address wild turkey populations, habitats, hunters and hunting satisfaction, non-consumptive recreational uses and public awareness and support for wild turkeys. Each objective

is addressed in the following individual sections, which also identify specific strategies and tasks necessary to accomplish each objective.

Populations

Based on the 2001 and 2011 statewide wild turkey distribution surveys, wild turkeys were located in all 67 counties of Florida and were present at moderate to high densities across more than one-third of the state (Nicholson et al. 2005; FWC, unpublished data). This wild turkey resource provides a wide range of recreational opportunities for residents and visitors of Florida; however, an increasing human population and associated development are expected to negatively impact the state's wild turkey resource and habitat. As such, continuing to monitor turkey populations will be critical for identifying factors affecting populations and potential corrective measures. To adequately monitor wild turkey populations throughout the state, managers will need to leverage existing sources of population information while developing innovative and independent approaches to population monitoring.

Since 1989, the WTMP has conducted an annual mail survey of resident and nonresident spring season turkey hunters in Florida. To date, over 300,000 surveys have been mailed with over 90,000 returned survey responses. In addition to the annual mail survey, the FWC has for decades monitored spring season wild turkey harvest and hunting pressure on numerous WMAs (currently 51 WMAs) across the state. The resulting metrics from these two population monitoring approaches provide long-term indices of the wild turkey population both statewide and regionally, and provide indices of the satisfaction of turkey hunters, the largest wild turkey stakeholder group in the state. These metrics combined with new information sources, and potential development of new non-harvest-based population metrics, will allow managers to perform the critical population monitoring necessary for wild turkeys in the face of changing environmental and socio-political conditions.

Objective: Maintain distribution in all 67 counties and positive or stable population trends as measured by population metrics obtained from the annual statewide mail survey of spring season turkey hunters and WMA hunter check stations throughout the state to ensure a sustainable statewide wild turkey population.

A. Strategy: Monitor distribution and population status using 5-year moving averages of population metrics of the statewide wild turkey population.

1. Task: Annually conduct a statewide mail survey of spring season turkey hunters to provide reasonable estimates of harvest and hunter effort at statewide and regional levels. Conduct in association with

Turkey Hunter and Hunting Satisfaction—Objective 2, Strategy A, Task 1.^{T1G1S4}

The FWC administrative region will serve as the defined constant for comparison purposes using 95% Confidence Intervals for harvest. However, these data will be collected at the county level such that various groupings of counties can be utilized as required. To the extent possible, methodologies for conducting and analyzing the survey should not be modified; otherwise, comparability with previous results is jeopardized. Any changes made should be noted in detail.

2. Task: Examine historical data and the metrics derived from the annual mail survey of spring season turkey hunters to establish benchmarks that define satisfactory population levels in terms of harvest and hunter success (e.g., hunter days per turkey harvested) while keeping with public attitudes and perceptions regarding social carrying capacity (refer to *Awareness and Support Objective, Strategy C*). Then, annually compare the previous 5-year average of the metrics derived from the spring turkey mail survey to the established benchmarks to assess population trends and status.^{T2G1S1&5}

3. Task: Integrate new sources of information and monitoring methods as they become available that may result from non-traditional, non-harvest based survey methodologies and/or citizen-science (i.e., brood survey, eBird, FWC Reporter, etc.) into a comprehensive statewide wild turkey population abundance and distribution monitoring strategy to leverage all available data sources.^{T1G1S4; T3G2S3}

4. Task: If monitoring indicates a significant declining trend in regional population numbers, investigate limiting factors, determine the cause(s) and recommend corrective measures, which could include, but are not limited to, adjustments in harvest regulations, enhanced enforcement of hunting regulations, efforts to improve habitat conditions, etc.

B. Strategy: Develop new metrics for monitoring population distribution, productivity, abundance and/or harvest at a local scale.^{T1G1S4}

1. Task: Identify lead and cooperative WMAs where wild turkey surveys are being conducted and determine if monitoring efforts on these WMAs are providing usable population data for management purposes. Promote standardization between monitoring efforts on WMAs to ensure comparable data between areas across the state. If resulting data are unusable or scientifically unsound, recommend discontinuance or appropriate modifications to monitoring efforts.

2. Task: Determine what methods are currently conducted to monitor wild turkey populations on private lands and determine if information collected can be integrated into a comprehensive monitoring strategy. Assess ways that FWC and the WTMP can provide technical assistance to private land managers to improve monitoring efforts for integration into a comprehensive monitoring strategy. ^{CTI-PL-G2S1&4}

3. Task: Review prior studies to determine gaps in research concerning population survey techniques. Evaluate and/or develop innovative methodologies to survey and monitor wild turkey populations on public and private lands at local spatial scales that are scientifically acceptable and useful for management purposes (i.e., trail camera surveys, acoustic recording point counts, citizen science surveys, etc.). ^{T1G1S4}

4. Task: If monitoring detects potential local extirpations or significantly declining numbers, refer to *Populations Objective, Strategy D* and consideration of wild turkey restoration efforts in those areas.

C. Strategy: Develop a wild turkey health monitoring system and response plan.

1. Task: Determine issues related to wild turkey health which need to be monitored and develop an appropriate monitoring and response plan.

The plan should prioritize issues (e.g., diseases, parasites, toxicants) based on potential impacts to humans and wild turkey populations. Those issues that have potential human health ramifications (e.g., avian influenza) should receive high priority, while those issues with no human health concerns and minimal wild turkey population level threats (e.g., avian pox) should receive low priority. With respect to monitoring, the plan should include elements for:

- a. Passive sampling—sick or emaciated birds reported to the agency*
- b. Active sampling—turkeys captured for research, hunter check-stations, etc.*

2. Task: Prepare a series of fact sheets on issues related to wild turkey health that can be used by field biologists, posted at WMA check stations, and placed on FWC's website. Conduct in association with *Awareness and Support Objective, Strategy B*. ^{T4G1S3}

D. Strategy: Restore/enhance populations where suitable habitat occurs and wild turkeys are absent or significantly below capacity. ^{T1G1S4}

1. Task: Develop a restoration plan that defines criteria for the consideration of restoration requests and for prioritizing areas identified as having population numbers significantly below capacity. Conduct in association with *Habitat Objective, Strategy A, Task 2*.

The restoration plan should identify minimum suitable acreage, distance to/connectivity of established populations, etc. A trapping protocol and details for the full conduct of restoration programs (i.e., birds/acre released, sex ratio of release, goal and objectives for successful completion, description of minimal post-release monitoring to be conducted, etc.) should be included.

2. Task: Based on *Task 1* above, begin relocation efforts, or habitat management actions as appropriate, to restore wild turkeys to “significant areas” of suitable habitat.

“Significant areas” implies large areas of the state where wild turkeys do not occur or occur at low numbers. Restoration of wild turkeys to smaller acreages that have barriers that are preventing natural repopulation from surrounding areas may be suitable in some cases. Identifying FWC lead managed WMAs within the restoration area where FWC could focus habitat management actions may also aid restoration efforts.

Habitat

The FWC is involved with, and provides management for, nearly six million acres of public land associated with Florida’s WMA system. Additional public holdings not in the WMA system are managed by federal agencies, state parks, water management districts, counties and other public entities. Moreover, private lands, in the form of forests, fields, pastures and other agricultural uses, comprise the majority of undeveloped lands in the state. Considerable habitat management and enhancement efforts are directed toward wildlife management on these public and private lands through various state and federal programs and private enterprises. Much of this land supports substantial wild turkey resources, and in many cases management activities are specifically directed toward their improvement.

Generally speaking, wildlife populations increase as habitat quality improves. Having abundant and widely dispersed habitat that meets the daily requirements of wild turkeys throughout the year is fundamental to the overarching goal of having healthy turkey populations across the state. Therefore, efforts should be directed at improving the suitability of wild turkey habitat through properly applied land management practices, thereby increasing wild turkey populations in Florida. Implementing the following habitat and land management tasks should

contribute positively to achieving the habitat and population objectives of this strategic plan.

Objective: Maintain or increase habitat quantity and suitability necessary to satisfy a stable or increasing wild turkey population statewide, as determined by *Populations Objective, Strategy A, Task 2*.

A. Strategy: Determine habitat management techniques that improve wild turkey habitat. Then assess the quantity and suitability of habitat in Florida and prioritize areas where habitat management could improve habitat suitability for wild turkeys. ^{T1G2S1}

1. Task: Evaluate habitat management and habitat restoration approaches commonly being practiced to determine their effectiveness in restoring or improving habitat suitability for wild turkeys. ^{T1G2S3}

2. Task: Evaluate habitat requirements and determine various levels (i.e., good, moderate, poor and non-habitat) of habitat suitability and patch sizes for wild turkey populations to determine the quantity and spatial arrangement of suitable wild turkey habitats across Florida.

3. Task: Compare information on wild turkey population distribution and abundance to statewide habitat suitability models and identify areas where wild turkey numbers are significantly below capacity and where habitat management or conservation could improve wild turkey numbers. Conduct in association with *Populations Objective, Strategies A and D*.

B. Strategy: Promote improved habitat management for wild turkeys on public lands in the WMA system. ^{T1G2S3}

1. Task: Continue to administer the Wild Turkey Cost-share Program and continually look for ways to enhance and expand the program to increase management actions that improve wild turkey habitat throughout Florida.

2. Task: Expand working relationships with cooperators on cooperatively managed WMAs to improve wild turkey habitat.

3. Task: Coordinate with FWC staff to provide technical assistance and habitat management recommendations beneficial to wild turkeys to WMA lead land managers when and where needed.

4. Task: Work with the FWC Land Conservation Planning section to provide input on 10-year management plans for FWC lead managed WMAs where wild turkey habitat potential exists, and seek to provide input on similar planning efforts of other agencies where appropriate.

C. Strategy: Promote and assist in improving wild turkey habitat management on other public lands in Florida. ^{T1G2S3}

1. Task: Continue to pursue effective agency partnerships to improve and increase habitat beneficial to wild turkeys, such as funding of habitat improvement projects through the Wild Turkey Cost-share Program.

2. Task: Engage with and seek opportunities among traditional and nontraditional sources for additional public and private resources (i.e., grants, donations, volunteers, etc.) to help improve wild turkey habitat on public lands in Florida.

3. Task: Coordinate with FWC staff to provide technical assistance and habitat management recommendations beneficial to wild turkeys to land managers of other public lands when and where needed.

D. Strategy: Work to promote and improve wild turkey habitat on private lands throughout Florida. ^{T1G2S3}

1. Task: Work with agency and non-governmental partners to use private land cost-share programs, such as NRCS Farm Bill programs, Florida Forest Service's Assistance Programs, USFWS Partners Program, etc. to provide financial incentives for private landowners to actively manage their lands in ways that are beneficial for wild turkeys.

2. Task: Work with the FWC Landowner Assistance Program and associated partners (e.g., NWTF, FFS Cooperative Forestry Assistance Program) to provide technical assistance and habitat management recommendations to private landowners directly and through various media outlets, including social media, and online videos.

3. Task: Work with agency partners through the Florida Land Steward initiative to educate private landowners about wild turkey biology and beneficial habitat management practices at landowner field days and educational workshops.

E. Strategy: Work with stakeholders and partners to support efforts designed to protect and conserve undeveloped land important for wild turkeys. ^{T1G2S2}

1. Task. Work with stakeholders and partners to support government land acquisition programs and conservation easements to protect wild turkey habitat and create wildlife corridors.

2. Task. Coordinate with the FWC Land Use Planning Program and other FWC staff to work with local, county and other state agencies to promote and encourage proactive land development policies and planning that would increase the amount of long-term protected habitat beneficial to wild turkeys. ^{T3G4}

3. Task. Work with stakeholders and partners to support and promote efforts designed to maintain and protect the conservation value of undeveloped private lands (e.g., conservation easements, tax incentives, landowner cooperative associations, payment for ecosystem services, etc.). ^{CTI-PL}

4. Task. With stakeholders and partners, use available media resources to emphasize the importance of habitat conservation for wild turkeys and other wildlife and communicate proactive measures individuals can take. Conduct in association with *Awareness and Support Objective, Strategy B*.

Turkey Hunters and Hunting Satisfaction

Part of the agency's overall mission is to manage wildlife resources for the benefit of people. The largest user constituency and supporter of the wild turkey resource has been and continues to be hunters. In addition, revenue generated from the sale of turkey hunting permits is the primary funding source for the WTMP, thus licensed turkey hunters remain critical for funding the continued conservation of Florida's wild turkey resource. At the same time, available data suggests there may be an overall national decline in the number of hunters, with the age of hunters steadily increasing, suggesting recruitment, retention and reactivation (i.e., "R3") of youth and others into the sport is lacking. To ensure future funding and continued support of wild turkey conservation in Florida, it will be imperative to work to maintain or increase the number and diversity of turkey hunters within the state by providing satisfying and safe hunting experiences and adequate, suitable lands for turkey hunting.

Objective 1: Maintain or increase the number and diversity (ethnicity, race, gender, urban, suburban and rural) of licensed turkey hunters and actual turkey hunters over the level of the 5-year baseline average from 2014-2018.

A. Strategy: Monitor the number and diversity of licensed turkey hunters, as well as of those who actually hunt.

1. Task: Annually review FWC license database to determine the number of licensed turkey hunters and compare to baseline average.

2. Task: Utilize existing FWC license database information (e.g., age, sex, address, etc.) for tracking diversity of licensed turkey hunters to establish a baseline average diversity measure and explore alternate means to collect additional diversity information for licensed turkey hunters to be compared at 5-year intervals.

3. Task: Analyze data from the statewide mail survey of spring season turkey hunters (see Objective 2, Strategy A, Task 1) to determine the diversity of licensed turkey hunters that actually turkey hunted during a given spring for comparison with the diversity of all license holders from Task 2 above.

B. Strategy: Encourage and support new and regressed turkey hunting participants.

1. Task: Review prior surveys to compile information and existing data regarding attitudes and characteristics of various non-hunting groups (e.g., never hunted but not anti-hunting; only hunted a few times; used to hunt but haven't in past five years; eligible turkey hunter but didn't hunt turkeys) and the reasons why they do not turkey hunt. Conduct further surveys of appropriate non-hunting groups as necessary to fill data gaps.^{T2G1}

2. Task: Work with the FWC "R3" Hunting Coordinator, partners, and stakeholders to develop strategies to advance recreational participation by the above-mentioned non-hunting constituencies.^{T2G1}

3. Task: In concert with *Strategy A, Task 2* above, implement new or updated survey methodology designed specifically to assess the demographic diversity of the turkey hunting community in an effort to subsequently develop strategies for increasing such diversity.^{T3G1S4; EPIC-G1}

4. Task: Work with partners and stakeholders to expand or increase participation in all facets (i.e., youth, landowners and volunteers) of mentored turkey hunting offered through the Youth Hunting Program of Florida (YHPF) and to identify other programs or methods to encourage and increase mentoring by experienced hunters, connecting them with interested youth and adults outside of YHPF.^{T2G1}

5. Task: Work with partners and stakeholders to support the Florida Youth Conservation Centers Network (FYCCN) and to include appropriate wild turkey related programming to be offered at Conservation Centers and Hunt Camps that is suitable for diverse audiences. [T3G1; EPIC-G2](#)

6. Task: Work with the Becoming an Outdoors Woman program through that program's workshops and other events to include appropriate wild turkey related programming that is suitable for diverse audiences.

7. Task: Work with partners and stakeholders to provide support for turkey hunting opportunities offered to veteran (e.g., Florida Forest Service's Operation Outdoor Freedom, Wounded Warrior, etc.) and mobility-impaired (e.g., NWTF Wheelin' Sportsmen, Florida Disabled Outdoors Association, etc.) hunters. [T2G1S4](#)

8. Task: Work with partners and stakeholders to explore the feasibility and effectiveness of developing and conducting turkey hunting workshops at various locations in Florida suitable for diverse audiences (e.g., select FYCCN locations).

9. Task: Continue to recognize youth hunters that bag their first gobbler and hunters that harvest an exceptional gobbler (judged by beard and spur lengths) through the Wild Turkey Registry.

C. Strategy: Strive to maintain or increase the amount of suitable lands offering turkey hunting opportunities to support the needs and interests of current, new and returning turkey hunting participants. [T2G1S2](#)

1. Task: Annually assess acres of public land available for turkey hunting and cooperate with other government agencies and stakeholders to open additional suitable public lands to turkey hunting.

2. Task: Work with stakeholders, private landowners and corporations to identify effective strategies and incentives for maintaining lands open and/or to open additional private lands for public turkey hunting opportunities (e.g., Wildlife Management Areas, Youth Hunting Program of Florida, FFS Operation Outdoor Freedom hunts, etc.).

3. Task: Work to actively support and seek support from partners and stakeholders for the acquisition of private parcels suitable for wild turkey hunting opportunity by governmental acquisition programs. Emphasis

should be placed on regions of the state where public turkey hunting opportunity is currently limited.

Objective 2: Maintain turkey hunter satisfaction levels such that at least 50% of turkey hunters surveyed rate their spring hunting experience as good to excellent and fewer than 15% of turkey hunters rate it as poor as determined by an annual spring turkey mail survey.

A. Strategy: Monitor harvest, hunter participation and satisfaction trends.

1. Task: Annually conduct a statewide mail survey of spring season turkey hunters to assess the level of participation, satisfaction and harvest success among Florida's eligible spring turkey hunters.

Data will be collected at the county level, as prescribed in the Populations Objective, Strategy A, Task 1, such that estimates for the above metrics can be computed statewide and at other appropriate scale(s) through various groupings of counties. The FWC administrative regions will nevertheless serve as the defined constant for comparison purposes.

2. Task: Explore methods to obtain data concerning fall turkey season harvest and hunter effort.

3. Task: Develop an annual wild turkey hunting status report to present to the public on recent trends in harvest, hunter participation and hunter satisfaction as measured by annual surveys. ^{T4G1S3}

4. Task: Annually review harvest and hunter success data for the previous five years for all Special-Opportunity Turkey Hunt areas and other WMAs having this data. ^{T4G1S4}

This review would be used as a means of further evaluating hunt quality and to identify public areas that may have potential population problems (e.g., consistent decline in harvest and/or hunter success) or areas where additional turkey hunting opportunity may be warranted and sustainable.

B. Strategy: Review and evaluate the current season format and hunting regulations in the context of hunter preferences, harvest distribution and biological data.

1. Task: Review past studies and conduct additional hunter surveys as needed (e.g., every 5-10 years) to determine current attitudes, characteristics, demographics and levels of satisfaction toward wild turkey hunting and management. ^{T1G1S4; T2G1}

2. Task: Continue to explore methods to effectively identify and solicit input from turkey hunters exempt from licenses and incorporate into surveys where feasible.

3. Task: Consider eliminating or simplifying existing regulations and initiating other regulation changes designed to increase turkey hunting opportunity and/or turkey hunter satisfaction and to maintain or increase harvest distribution among turkey hunters while maintaining sustainable turkey populations throughout Florida. [T1G1S4](#); [T2G3](#)

Changes would be pursued only when compatible with biological constraints for sustainable harvest and desired population objectives, and where regulatory enforcement is feasible. Examples of topics that might be reviewed include:

- a. Quota permits*
- b. Season dates*
- c. Bag limit*
- d. Legal to take*
- e. Methods of take*
- f. Legal shooting hours*

4. Task: Identify data gaps concerning wild turkey biology and prioritize research such that current or proposed regulations can be better evaluated to ensure sustainability of the wild turkey resource. [T1G1S4](#); [T2G1S5](#)

C. Strategy: Increase hunter understanding of and compliance with turkey regulations and safe hunting practices.

1. Task: Work with partners (e.g., National Wild Turkey Federation's Florida Chapter) to obtain items that can assist the FWC Division of Law Enforcement (DLE) in the enforcement of turkey regulations (e.g., robo-turkeys, trail cameras, etc.) and publicize their use as an enforcement and education tool.

2. Task: Compile an annual report of turkey-related violations and monitor trends regarding the number and type of turkey-related citations issued by DLE to assist in identifying areas needing greater enforcement attention and/or increased education of turkey hunters. [T1G1S6](#)

3. Task: Continue to engage with hunt clubs and other interested stakeholders to promote understanding of and compliance with hunting regulations. [T1G1S6](#)

4. Task: Annually review reports of turkey-related hunting incidents to assist in prioritizing the focus of turkey hunting safety outreach efforts and educational initiatives. ^{T2G2S1}

5. Task: Work with the FWC Division of Hunting and Game Management's Hunter Safety and Ranges section, stakeholders and others to develop/revise turkey hunting safety messaging that is suitable for diverse audiences, addressing recent trends in safety incidents, and that promotes turkey hunting as a safe recreational opportunity. ^{T2G2S1,3&4}

Non-Consumptive Recreational Use

As the FWC's overall mission is in part to manage wildlife resources for the benefit of all people, this strategic plan would be remiss in considering consumptive users of the wild turkey resource alone. Historically and currently, the largest user group and supporter of the wild turkey resource is hunters (the consumptive user group). However, use of natural resources in general by outdoor recreationists, or non-consumptive users, has grown in recent years and continues to increase. Furthermore, the FWC recognizes the need to continue to expand participation in conservation efforts to new groups and constituencies. Therefore, it is important to identify and to consider effective avenues to incorporate recreational user groups into the management of the wild turkey resource.

Objective: Enhance and promote opportunities for non-consumptive recreational use (e.g. birding, photography, nature study) of the wild turkey resource as determined by non-harvest based measures and increase non-consumptive recreational user's participation in the management of the wild turkey resource.

A. Strategy: Identify, document and encourage non-consumptive recreational use of the wild turkey resource. ^{EPIC-G2}

1. Task: Identify non-consumptive user groups of the wild turkey resource and determine the most effective ways to communicate and promote wild turkeys within these groups. ^{T3G1S4}

2. Task: Increase non-consumptive users' awareness of wild turkeys through non-traditional outreach channels with which they frequent and are familiar (i.e. social media, blogs, non-hunting periodicals, etc.). ^{T3G1S4}

3. Task: Develop a strategy to use citizen-science based reports (i.e., eBird, i-naturalist, etc.) of wild turkey sightings as a measure of non-consumptive use. ^{T3G2S3}

B. Strategy: Engage non-consumptive users to assist with citizen science surveys to estimate population size, distribution and other measures of the

wild turkey resource. Conduct in coordination with *Populations Objective, Strategy A*. ^{T3G2S3}

- 1. Task:** Encourage reporting of turkeys on citizen-science platforms (i.e., eBird, i-naturalist, FWC reporter, etc.) to improve non-harvest based information on the wild turkey resource.
- 2. Task:** Develop citizen-science based survey protocols and platforms for reporting to gather non-harvest based population and resource use data.

Awareness and Support

As the FWC endeavors to manage the wild turkey resource and the habitats that support it, we recognize that all wildlife is a public trust responsibility. Continued support of fish and wildlife conservation is crucial to the long-term well-being and availability of these resources for public enjoyment. Consequently, part of any effective wild turkey strategic management plan will seek to garner public support for wild turkey conservation (e.g., habitat work, prescribed burning, supporting undeveloped private lands, etc.) and hunting; appreciation for and appropriate interactions with wild turkeys; and reducing and effectively addressing conflict with wild turkeys as they arise. This objective will also serve to increase awareness of wild turkey conservation, its related research, restoration projects, management and partnership activities of the FWC.

Objective: Identify target audiences within the general public and increase their awareness and support of, and engagement in, wild turkey conservation and management within the state of Florida.

A. Strategy. Gather baseline data regarding awareness, support and engagement of specific target audiences related to wild turkeys, their conservation and management and monitor change in these levels as a result of targeted outreach efforts. ^{T3G2S2}

- 1. Task.** Identify key traditional and non-traditional audiences and create targeted messaging for each group that is meant to resonate with and increase each group's awareness, support and engagement for wild turkey conservation and management.

Specific content should be developed and tested to determine the most appropriate message for each target audience.

- 2. Task.** Identify appropriate pathways for communicating targeted messaging to the appropriate audience and distribute accordingly.

3. Task. Measure results of these messaging efforts by conducting follow-up surveys or focus groups.

4. Task. Periodically engage the same target audience, repeating steps outlined in Tasks 1-3, to monitor change in various segments of the population and their awareness and support of the FWC's efforts.

B. Strategy: Work to integrate wild turkey conservation messaging with appropriate FWC communications and outreach efforts, as well as those of traditional and non-traditional external partners (i.e., National Wild Turkey Federation, UF IFAS, Audubon, etc.).^{T3G3S1}

1. Task: Identify appropriate FWC personnel and partnerships (NGOs, state and federal agencies, etc.) to help develop an integrated messaging strategy.

2. Task: Create clear messages regarding the importance of wild turkeys that addresses both consumptive and non-consumptive values and viewpoints and incorporate these into appropriate communication and outreach efforts to promote wild turkey conservation and hunting (e.g. "R3", FYCCN, social media).

3. Task: Create/build relationships with outdoor-focused print and digital media outlets to establish the FWC as an expert source for wild turkey information, and develop magazine articles, news releases, blogs, etc. for dissemination through these print and digital platforms.

4. Task: Identify projects that will benefit from proactive outreach, education and media expertise, and develop messaging as appropriate.

C. Strategy: Monitor issues related to wild turkey abundance and social carrying capacity at the regional and statewide scales.^{T2G4S1; CW-G2}

1. Task: Use various tools (focus groups, small-scale surveys, published literature, etc.) to understand attitudes and perceptions among various segments of the general public (hunters, agriculture producers, urban/suburban residents, etc.) regarding the wild turkey resource and acceptable population levels. With this information, determine the appropriate threshold (e.g., percentage of respondents) at which corrective action would be called for to reduce concerns of residents that wild turkey populations exceed social carrying capacity.

The threshold identified should be such that if >X% of respondents indicate dissatisfaction with the abundance of wild turkeys, corrective action will be

considered. Corrective actions to consider could include but are not limited to changes in harvest related regulations, such as:

- a. Bag limits*
- b. Quota permits*
- c. Season length*
- d. Legal to take (i.e., either-sex harvest)*

2. Task: Conduct statewide surveys on a periodic basis (e.g., every 5-10 years) to monitor attitudes/perceptions of the wild turkey resource among the various segments of the general public. Ideally, these results should be capable of identifying areas at the regional scale in which wild turkey populations have reached a threshold of intolerance. If monitoring suggests abundance has exceeded the acceptable threshold of the general public in particular regions of the state, corrective actions should be initiated as appropriate.

D. Strategy: Develop response protocols for nuisance wild turkey complaints and crop depredation issues at local scales. [T2G4S1; CW-G1,2&3](#)

1. Task: Compile records of nuisance wild turkey complaints, wild turkey depredation complaints and other wild turkey-related issues to identify common problems to be addressed.

2. Task: In coordination with the FWC Division of Habitat and Species Conservation's Wildlife Impact Management section, develop and implement a nuisance wild turkey and crop depredation response protocol.

Guidelines for responding to nuisance and crop depredation complaints should include "best practices" for residents to employ for altering nuisance behavior, as well as appropriate avenues for dissemination of this information to reach as many residents as possible within the conflict area. The intent of these messaging efforts should be to manage expectations, change behaviors, and transform beliefs regarding wild turkey interactions. [T2G4S2](#)

In addition, guidelines should identify appropriate timing and level of involvement of state personnel. Guidelines should address when and how lethal removal would be employed, and if trapping is an option, when and how it would be employed, as well as final disposition and proper handling of captured wild turkeys for relocation, restocking and/or euthanasia.

IMPLEMENTATION APPROACH

This strategic plan is designed to provide general direction for wild turkey management, research, outreach and other associated activities for a 10-year period from the date of its approval. While the WTMP will likely take a lead role in executing this plan, fully implementing and accomplishing all the tasks identified for each of the stated objectives will require the combined effort and cooperation of numerous entities across FWC's divisions and offices, as well as partner agencies and organizations outside FWC, such as the NWTF.

It is recognized that not all strategic plan tasks outlined herein can be initiated or worked on simultaneously. Of necessity, certain tasks will need to be completed before other tasks can be addressed. Some tasks are recurring, annually or at longer intervals. Work on specific strategic plan tasks will depend on competing work responsibilities and the availability of funding and staff time to be committed to the activity. To provide guidance in implementation of the strategic plan elements, the WTST will meet regularly (every 2-3 years) to review task implementation timelines according to their temporal urgency, precursor accomplishments and available resources. Using a facilitated process, the team will determine general time frames for initiation and expected completion for each task. Three implementation phases will be identified: Phase 1 for tasks to be worked on in the next 1-3 years, Phase 2 for tasks that will be acted on in the next 4-6 years, and Phase 3 for tasks to be pursued 7-10 years from now. By meeting at regular intervals, the team will be able to track progress, reassess available resources, review and make adjustments to task implementation phase assignments.

A similar, but separate, facilitated process will be used for ranking and prioritizing research-related efforts. Upon approval of this strategic plan, the WTST will meet to identify information needs and research questions and prioritize them for implementation. Accomplishment of the actual research will likely be through a combination of in-house investigations and contracted work with other research entities (e.g., universities, federal research stations, independent research groups). Prioritization will be routinely revisited and adjusted as appropriate to ensure highest priority research is being pursued when and where possible.

This strategic plan outlines specific strategies and tasks identified through a formal planning process relative to continuing and expected threats to, and societal demands on, Florida's wild turkey resources. Significant effort was given to identify potential issues that may affect wild turkeys in the coming decade and methods to appropriately address them. Once approved, this document is designed to direct ongoing activities; however, it should not preclude timely response to new and unforeseen issues. Therefore, by necessity, it is considered a living document, whereby a certain amount of flexibility exists for the WTST to be available to incorporate emerging issues and opportunities that may not have been addressed originally in this plan.

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Appendix A. Key for Linkages to Agency Strategic Planning Efforts

Many plan elements of this updated Wild Turkey Strategic Management Plan support the goals, strategies and activities associated with the [Agency Strategic Plan and its associated Strategic Initiatives](#). In an effort to highlight these connections where they exist throughout the plan, alpha-numeric superscripts were included with these plan elements. The following key and description are provided to explain these superscript notations and the agency strategic planning components they reference.

Agency Strategic Plan		
Alpha-numeric Notation	Agency Strategic Planning Elements	Element Verbiage
T1	Theme 1	Florida’s Fish and Wildlife Populations and Their Habitats
G1	Goal 1	Ensure the sustainability of Florida’s fish and wildlife populations
S4	Strategy 4	Develop, acquire and apply the appropriate biological and sociological science to inform fish and wildlife conservation decisions
S6	Strategy 6	Protect fish and wildlife species through effective outreach and enforcement
G2	Goal 2	Ensure sufficient habitats exist to support healthy and diverse fish and wildlife populations
S1	Strategy 1	Use science to determine quantity, quality and location of the habitats most critical to sustain healthy and diverse fish and wildlife populations
S2	Strategy 2	Protect lands and waters critical to sustaining healthy and diverse fish and wildlife populations through diverse incentive programs
S3	Strategy 3	Manage habitats to sustain healthy and diverse fish and wildlife populations

T2	Theme 2	Interactions with Fish and Wildlife, including Fishing, Hunting, Boating and Wildlife Viewing Opportunities
G1	Goal 1	Provide residents and visitors with quality fishing, hunting, boating and wildlife viewing opportunities that meet their needs and expectations while providing for the sustainability of those natural resources
S1	Strategy 1	Manage fish and wildlife populations to provide sustainable fishing, hunting and wildlife viewing opportunities
S2	Strategy 2	Develop and maintain widely available, diverse and accessible fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of residents and visitors while providing for the sustainability of those resources and emphasizing partnerships with both public and private landowners
S4	Strategy 4	Provide targeted fishing, hunting, boating and wildlife viewing programs for youth, the disabled and veterans
S5	Strategy 5	Develop, acquire and use the appropriate biological and sociological science necessary to provide sustainable fishing, hunting, boating and wildlife viewing opportunities that meet the needs and expectations of user groups while providing for the sustainability of those resources
G2	Goal 2	Enhance the safety and outdoor experience of those who hunt, fish, boat and view wildlife.
S1	Strategy 1	Provide and promote opportunities for residents and visitors to learn safety practices for fishing, hunting, boating and wildlife viewing
S3	Strategy 3	Promote Florida's outdoor environment as a safe and healthy recreational option for residents and visitors
S4	Strategy 4	Address the growing disconnect between people and nature by marketing and providing opportunities and education for diverse age, race, gender, ethnic and other demographic sectors
G3	Goal 3	Use minimal regulations to manage sustainable fish and wildlife populations, manage access to fish and wildlife resources, and protect public safety

G4	Goal 4	Minimize adverse environmental, social, economic and health and safety impacts from fish, wildlife and plants that are known, or have a potential, to cause adverse impacts
S1	Strategy 1	Manage species and their habitats as well as species and human interactions to eliminate or reduce the adverse environmental, social, economic and health and safety impacts from native and non-native fish, wildlife, and plants
S2	Strategy 2	Effectively communicate to residents, visitors and businesses how to be safe and act responsibly when interacting with or possessing fish, wildlife and plants
T3	Theme 3	Sharing Responsibility for Fish and Wildlife Conservation and Management with an Emphasis on Developing Conservation Values in Our Youth
G1	Goal 1	Ensure current and future generations support fish and wildlife conservation
S4	Strategy 4	Expand marketing and outreach to reach diverse audiences, and engage all staff in priority outreach initiatives
G2	Goal 2	Ensure residents, visitors, stakeholders, and partners are engaged in the processes of developing and implementing conservation programs
S2	Strategy 2	Engage residents, visitors, stakeholders and partners to understand their perspectives, develop and implement conservation programs, and implement fishing, hunting, boating and wildlife viewing management activities
S3	Strategy 3	Use citizen science to enhance conservation programs
G3	Goal 3	Increase opportunities for residents and visitors, especially youth, to actively support and practice fish and wildlife conservation stewardship
S1	Strategy 1	Inform residents and visitors about conservation stewardship and encourage their active involvement in achieving conservation of fish and wildlife

G4	Goal 4	Encourage communities to conserve lands and waters critical to sustaining healthy and diverse fish and wildlife populations
T4	Theme 4	Responsive Organization and Quality Operations
G1	Goal 1	Integrate our commitment to benefit the community and enhance the economy through our conservation efforts and public service
S3	Strategy 3	Provide residents and visitors with reliable and current information on Florida's fish and wildlife
S4	Strategy 4	Continue to attract visitors by providing top-quality fishing, hunting, boating and wildlife viewing opportunities

Strategic Initiatives		
Alpha-numeric Notation	Agency Strategic Planning Elements	Element Verbiage
EPIC	Expand Participation in Conservation	Increase conservation participation among youth and families representing Florida's diverse population by expanding partnerships to implement FYCCN and other programs that promote fishing, hunting, boating, wildlife viewing, shooting sports, and conservation appreciation.
G1	Goal 1	Leverage FWC staff and programs to increase the number and diversity (ethnicity, race, gender, urban, suburban and rural) of youth and families participating in conservation
G2	Goal 2	Recruit diverse (ethnicity, race, gender, urban, suburban and rural) audiences and potential partners that serve them in order to increase their conservation participation in FYCCN and other programs.

CTI-PL	Conservation through Innovation—Private Lands	Implement a comprehensive approach, using innovative conservation tools and strategies, focusing on incentives for private lands. Strategies may include enhancing partnerships, incentives, and streamlining regulations.
G2	Goal 2	RELATIONSHIP BUILDING: New and enhanced relationships and partnerships with landowners, founded on mutual trust, for the purpose of fish, wildlife and habitat conservation on private lands
S1	Strategy 1	Strengthen relationships with private landowners by acknowledging the value of their land stewardship to conservation in Florida
S4	Strategy 4	Increase private landowner’s understanding and involvement in FWC’s programs related to private lands and private landowners
CW	Conflict Wildlife	Ensure continued support and appreciation for fish and wildlife by implementing an integrated programmatic approach across FWC to minimize adverse impacts associated with native and non-native fish, wildlife and plants. Successful efforts should minimize human health and safety, environmental, social and economic impacts.
G1	Goal 1	Develop Integrated Programmatic Approaches to Minimize Adverse Impacts Associated with Wildlife
G2	Goal 2	Identify & Monitor Human Dimension Aspects of Conflicts with Wildlife
G3	Goal 3	Minimize ‘Adverse Impacts’ of Conflicts with Wildlife

Appendix B. List of Partner Agencies, Stakeholders and Individuals Solicited for Review of the Draft 2019-2028 Strategic Plan for Wild Turkey Management

Allied Sportsmen's Associations of Florida
Avon Park Air Force Range
Bill George, Public Lands Hunter
Campbell Global
Chuck Echenique, Florida Hunting Guide
Defenders of Wildlife
Deseret Ranch
Eglin Air Force Base
Everglades Coordinating Council
Florida Audubon Society
Florida Department of Environmental Protection
Florida Disabled Outdoor Association
Florida Forest Service
Florida Sportsman's Conservation Association
Florida Wildlife Federation
Foley Timber and Land Co. (now Four Rivers Land and Timber)
FWC Private Lands Deer Management Program Participants
FWC Private Lands Technical Advisory Group
Lykes Brothers, Inc.
Mike Elfenbein, Public Lands Hunter
National Rifle Association of America
National Wild Turkey Federation
Natural Resources Conservation Service
Northwest Florida Water Management District
Pheasants Forever / Quail Forever
Resource Management Service (RMS)
Sierra Club of Florida
South Florida Water Management District
Southwest Florida Water Management District
St. Johns River Water Management District
Suwannee River Water Management District
Tall Timbers Research Station and Land Conservancy
The Future of Hunting in Florida
The Nature Conservancy, Florida Chapter
The Wildlife Society, Florida Chapter
The Westervelt Company
Unified Sportsmen of Florida
University of Florida, Department of Wildlife Ecology and Conservation
US Fish and Wildlife Service
US Forest Service
Weyerhaeuser Company