



Florida Fish and Wildlife Conservation Commission

Florida Wild Turkey Permit 2018-19 Annual Report

Florida Wild Turkey Permit

Section 379.354(8)(b)(i), *Florida Statutes*, establishes the fee for an annual Florida turkey permit for a resident or nonresident to take wild turkeys within the state or its coastal waters to be \$10 for residents and \$125 for nonresidents. Revenue generated from the sale of wild turkey permits or that pro rata portion of any license that includes turkey hunting privileges provided for in this subparagraph shall be used for conservation, research, and management of wild turkeys to promote the cultural heritage of hunting. Furthermore, the Commission shall prepare an annual report documenting the use of funds generated and shall submit the report to the Governor, the Speaker of the House of Representatives, and the President of the Senate no later than September 1 of each year.

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Executive Summary

This report documents the Florida Fish and Wildlife Conservation Commission's (FWC) use of Wild Turkey Permit funds during Fiscal Year (FY) 2018-19. Permit fund revenues and expenditures totaled \$984,324 and \$678,021, respectively. Program activities encompassed management projects; wild turkey population restoration; data collection, management, and analysis; technical assistance; and research and development. Funding for 37 management projects on 29 conservation areas and three regional focal areas was cost-shared with the Florida Chapter of the National Wild Turkey Federation (NWTf) and the Florida Forest Service (FFS) for a total funding amount of \$491,213. When considering other co-operator dollars and in-kind services, the total wild turkey cost-share program resulted in \$2,253,178.

During the summer and fall of 2018, staff used a mail survey of hunters to estimate the 2018 spring turkey season harvest at 20,312. The survey also determined that an estimated 5,795 youth hunters participated in the special Youth Turkey Season. In FY 2018-19 FWC staff proposed rule changes extending shooting hours during spring turkey seasons on public wildlife management areas that were approved by the Commission and continued research investigating male turkey mortality during the hunting season.

United States Forest Service, NWTf, FFS, and FWC continue to co-operatively fund a contracted wild turkey biologist position, which currently runs through September 2019. In addition, FWC's Wild Turkey Management Program (WTMP) hired an OPS assistant coordinator at the end of FY 2016-17 to help accomplish program objectives. Over the last year, WTMP staff and the co-operative wild turkey biologist provided technical assistance to various organizations, private citizens and the media.



Introduction

The public has a strong interest in wild turkey management and hunting. The Osceola subspecies, which occurs only in peninsular Florida, often draws particular interest. Because the wild turkey occupies a wide variety of habitat on private and public lands in all of Florida's 67 counties, it requires a comprehensive program that involves management, restoration, technical assistance, data analysis and research. The WTMP coordinates these activities with other FWC programs, other state and federal agencies, conservation groups, private landowners and the public. FWC uses revenues primarily from the sale of turkey permits to accomplish this work.

Established in 1986, section 379.354(8)(b), *Florida Statutes*, requires all individuals hunting wild turkeys in Florida to purchase and possess a turkey permit, in addition to their hunting license, unless exempt from license requirements. The fee for the turkey permit is \$10 for residents and \$125 for non-residents. The law stipulates that revenue generated from the sale of wild turkey permits, or that pro rata portion of any license that includes turkey hunting privileges, shall be used for the conservation, research and management of wild turkeys or to promote the cultural heritage of hunting. FWC is authorized to expend up to 10% of permit revenues to promote hunting and sport fishing activities with an emphasis on youth participation (s. 379.354(8), F.S.).

Pursuant to requirements in section 379.354(8), *Florida Statutes*, this report documents the revenues and expenditures associated with the turkey permit fund for FY 2018-19 and summarizes activities conducted by FWC through the use of these funds.

Turkey Permit Revenues and Program Expenditures

During FY 2018-19, 15,239 one-year resident turkey permits (\$10 each), 144 five-year resident turkey permits (\$50 each) and 3,431 one-year non-resident turkey permits (\$125 each) were sold. The revenues from these permit sales, plus those derived from the sale of other licenses that include turkey hunting privileges (e.g., annual sportsman's license, gold sportsman's license), totaled \$984,324. A portion of these revenues, \$31,868, was set aside to promote youth hunting programs in Florida (e.g., Beau Turner Youth Conservation Center in Jefferson County, Florida Youth Hunting Program, Ocala Youth Conservation Camp, etc.). Total expenditures for conservation, research, and management were \$678,021.

Program Activities

The WTMP is charged with coordinating wild turkey management and research activities across the state and providing a statewide approach to conservation and management of Florida's wild turkey population. During FY 2018-19, the WTMP led the Wild Turkey Standing Team in updating the 10-year Strategic Plan for Wild Turkey Management. The goal of the 10-year Strategic Plan for Wild Turkey Management (2019-2028) (<http://myfwc.com/media/1450/turkeystrategicplan.pdf>) is to "Ensure healthy and sustainable wild turkey populations throughout the state while providing and promoting compatible uses of the resource." Such a broad program requires involvement of WTMP and other FWC staff in activities generally encompassed



within five categories: management projects; wild turkey population restoration; data collection, management, and analysis; technical assistance; and research and development.

Management Projects

With continuing changes in the quality and quantity of wild turkey habitat in different locations throughout Florida, habitat management efforts continue to be vital to FWC's objective of maintaining turkey distributions across the state. Management funded by turkey permit revenue has primarily focused on the state's 5.8 million-acre wildlife management area (WMA) system because of the management opportunities it presents, the recreational public use of these lands and their associated funding needs. Management activities, such as mowing, prescribed burning, wildlife plantings, natural timberlands restoration, exotic species control and the creation of wildlife openings have enhanced habitat on these areas for wild turkeys and many other wildlife species.

During FY 2018-19, \$491,213 was provided for 37 management projects on 29 conservation areas and three regional focal areas (see exhibit 1). Historically, much of this management has been accomplished through a cost-share program with the Florida Chapter of National Wild Turkey Federation. In this regard, in FY 2018-19, the Florida Chapter donated \$87,510 to cost-share these management activities through their Super Fund program. In addition, the Florida Chapter received a grant from Gulf Coastal Plain Ecosystem Partnership for FY 2018-19 that was used to fund an additional \$5,250 worth of management projects. In FY 2015-16, the Florida Forest Service (FFS) joined as a funding partner to enable the program to serve more projects. This fiscal year, FFS contributed \$60,000 in funding. FWC provided \$338,452 of turkey permit funds as cost-share funding. In many cases, FWC or co-operating agencies provided equipment, personnel or other funding for these projects. These matching contributions had a total value of \$1,761,966, resulting in a total wild turkey cost-share program value of \$2,253,178. These projects provide substantial benefits for wild turkeys and other wildlife at a considerable cost savings relative to their overall value.

Exhibit 1

In FY 2018-19 the Wild Turkey Cost-Share Program Helped Fund \$2.2 Million in Wildlife Management Area Projects

Location	Project Description	FWC/FFS/NWTF Cost-share Funding	Other Co-operator Funding
Brooksville/Mt. Dora Ridges	SWGs FFS COBRA Team	\$20,000	\$215,000
Dupuis WMA	Cabbage Palm Reduction	\$20,000	\$25,760
Blackwater River SF	Sand Pine Removal (Blue Barnes Rd)	\$20,000	\$28,033
KICCO WMA	Herbicide	\$20,000	\$0
Blackwater River SF	Herbicide	\$20,000	\$5,000
Etoniah Creak State Forest	Upland Restoration	\$22,700	\$66,670
Blackwater River SF	Sand Pine Removal	\$20,000	\$63,000
Upper Hillsborough WMA	Hardwood Reduction	\$15,000	\$18,000
Blackwater River SF	Herbicide	\$20,000	\$21,327
Goethe SF - Watermelon Pond WMA	Hardwood Reduction	\$20,000	\$5,000
Twin Rivers SF	Hardwood Reduction	\$13,000	\$4,575
Tiger Bay SF	Hardwood Reduction	\$6,260	\$9,666
Green Swamp East	Roller Chopping	\$20,000	\$17,128
Choctawhatchee River WMA	Prescribed Burning	\$20,000	\$19,393
GCPEP	EST Burn Team Support	\$20,000	\$859,510
Big Shoals SF	Upland Restoration	\$0	\$9,794
Big Cypress National Preserve	Prescribed Burning	\$20,000	\$40,000
TNC Lands	Prescribed Burning/ Hardwood Reduction/ Invasive Control	\$20,000	\$29,000



Apalachicola National Forest	Prescribed Burning	\$18,500	\$115,200
Camp Blanding WMA	Prescribed Burning	\$4,500	\$5,000
Raiford WMA	Prescribed Burning	\$20,000	\$2,000
Florida Panther NWR	Cabbage Palm Reduction	\$20,000	\$49,000
Picayune Strand SF	Hardwood Reduction	\$20,000	\$40,000
Tiger Bay SF	Wildlife Openings Est. and Planting	\$6,500	\$8,800
CREW	Hardwood Reduction	\$8,500	\$14,398
Tate's Hell SF	Hardwood Reduction	\$8,000	\$7,000
J.W. Corbett	Wildlife Openings	\$6,500	\$9,500
Carl Duval Moore SF	Upland Restoration - Longleaf Est.	\$1,975	\$2,900
Green Swamp West	Mowing	\$3,000	\$4,000
St. Marks NWR	Wildlife Openings	\$4,120	\$45,400
Apalachicola WMA	Wildlife Openings	\$3,920	\$6,890
Wakulla SF	Wildlife Openings	\$720	\$4,000
Four Creeks	Wildlife Openings	\$2,920	\$4,822
John M. Bethea SF	Wildlife Openings	\$3,577	\$2,600
Lake Woodruff NWR	Wildlife Openings	\$1,675	\$1,000
Charles Bronson SF	Roller Chopping	\$19,845	\$0
Blackwater - Hutton Unit	Mowing Wildlife Openings/Fireline Est.	\$20,000	\$2,600
TOTAL		\$491,213	\$1,761,966
GRAND TOTAL			\$2,253,179

Note: The Wild Turkey Cost-Share Program is a partnership between the FWC, Florida Forest Service, and National Wild Turkey Federation.
Acronyms: NF = National Forest, NP = National Preserve, NWR = National Wildlife Refuge, SF = State Forest, SP = State Park, WMA = Wildlife Management Area

Wild Turkey Population Restoration

Widespread efforts to restore wild turkey populations in all suitable areas of Florida were completed in 1970; however, WTMP continues to monitor the statewide population to determine if smaller-scale maintenance and restoration efforts are warranted. For example, from 1998 to 2006 three separate restoration projects helped restore turkeys to Holmes County, Everglades National Park and Guana River WMA. One way WTMP continues to monitor turkey populations is through a statewide distribution survey conducted every 10 years. This survey of natural resource personnel (wildlife biologists, wildlife officers, and other knowledgeable individuals) was conducted initially in 2001 and repeated in 2011. Results from the 2011 survey (available at: <http://www.myfwc.com/hunting/by-species/turkey/distribution/>) confirmed the presence of turkeys in all 67 Florida counties. In conjunction with the survey, FWC staff developed a habitat suitability model to help identify areas of potentially suitable turkey habitat where turkey populations are lacking. Currently, no restoration needs have been identified.

Data Collection, Management, and Analysis

One role of WTMP is to monitor statewide turkey population trends. This is accomplished, in part, by conducting an annual post-season mail survey of spring turkey hunters. Through this process, a random sample of licensed turkey hunters is surveyed to generate statewide estimates of turkey harvest, hunter effort and hunter satisfaction. For the 2018 spring turkey season, survey forms were mailed in the summer and fall of 2018 to 18,000 licensed turkey hunters (15% of total), including two follow-up mailings to those who did not respond to previous mailings. A total of 4,089 responses were received (22.8% response rate). Based on survey responses, an estimated 32,769 hunters pursued turkeys during the 2018 spring season. Exhibit 2 summarizes the harvest estimates derived from the survey between 1988 and 2018. The 2019 spring turkey season mail survey was mailed to 18,000 license holders (15% of licensed turkey hunters) during May 2019; the third and final mailing is scheduled to occur in September 2019.



Exhibit 2
Florida Wild Turkey Harvest Estimates, 1988 - 2018

Year	Estimated Harvest	95% Confidence Limits
1988	15,774	12,249 - 19,298
1989	17,245	15,518 - 18,972
1990	16,173	14,463 - 17,883
1991	15,675	11,647 - 19,701
1992	10,897	9,786 - 12,007
1993	12,569	10,938 - 14,201
1994	14,237	12,487 - 15,988
1995 ¹	-	-
1996	15,067	13,624 - 16,510
1997	19,358	18,185 - 20,531
1998	23,419	21,546 - 25,291
1999	21,613	19,687 - 23,538
2000 ²	15,446	14,749 - 16,144
2001	14,214	13,571 - 14,856
2002	15,495	14,814 - 16,176
2003	15,509	14,752 - 16,265
2004	17,241	16,529 - 17,953
2005 ³	25,057	23,521 - 26,593
2006	21,507	20,366 - 22,648
2007	24,353	23,391 - 25,315
2008	27,296	25,930 - 28,662
2009	25,859	24,705 - 27,014
2010	23,821	22,578 - 25,065
2011	23,006	21,827 - 24,185
2012	21,005	19,873 - 22,136
2013	20,471	19,173 - 21,770
2014	20,374	18,588 - 22,159
2015	21,248	19,511 - 22,984
2016	20,748	19,312 - 22,185
2017	22,307	20,725 - 23,888
2018	20,312	18,452 - 22,173
2019 ⁴	-	-

Note: This table displays the spring turkey season harvest estimates and upper and lower values from mail surveys from 1988 to 2018 with 95% confidence limits. The true harvest is within these numbers with 95% certainty.

¹ A mail survey was not conducted.

² The survey instrument was substantially changed; thus, the harvest estimate is not readily comparable to previous years.

³ The survey was conducted through Florida State University using scan forms that resulted in data interpretation errors; the results may not be comparable to other years.

⁴ Data are not yet available.



During the 2018 mail survey, WTMP also inquired about the level of participation during the statewide youth spring turkey hunt. Based on survey responses, 5.6% of eligible turkey hunters supervised a child during the special 2-day hunt, providing the opportunity for as many as 5,795 youth hunters to participate.

WTMP also collects and summarizes harvest data from WMAs with check stations. These data are used to determine area-specific hunter success rates. Harvest data and hunter success rates can, in some instances, be useful as an indicator of the status of an area’s wild turkey population and/or the quality of its turkey hunting opportunities. Exhibit 3 presents the hunter success rates for the 2019 Special-Opportunity Turkey Hunts.

**Exhibit 3
Hunter Success Rates for the 2019 Special-Opportunity Turkey Hunts**

Wildlife Management Area	Harvest	Hunter Days	Hunter Success (hunter days/harvest)
Dexter/Mary Farms WMA	14	43	3.1
Fisheating Creek WMA	20	139	7.0
Ft. Drum WMA	4	40	10.0
Green Swamp West WMA	24	299	12.5
Homosassa WMA	4	32	8.0
Lake Panasoffkee WMA	7	70	10.0
Triple N Ranch WMA	17	103	6.1
Overall	90	726	8.1¹

Source: Data collected by FWC’s Wild Turkey Management Program.

¹ This number represents the total combined pressure divided by total combined harvest for all listed Wildlife Management Areas.

Technical Assistance

WTMP, other FWC personnel and a co-operative wild turkey biologist are often called upon to provide information to other agencies, various organizations, private landowners, the media and the general public concerning wild turkeys. Such assistance covers a wide range of topics including questions on wild turkey history and management, survey techniques, nuisance and crop depredation complaints, hunting information and opportunities, data collection and research issues.

Agency Assistance. FWC and other state agency personnel frequently request assistance from WTMP concerning turkey population surveys, turkey management on WMAs and other public hunting lands and development of funding proposals for habitat management projects. During FY 2018-19, WTMP and the co-operative wild turkey biologist visited numerous WMAs, state forests, national forests and national wildlife refuges to provide input on wild turkey management or hunting regulations, or to discuss funding opportunities for management projects. WTMP also continued to work co-operatively with the Northwest Florida Water Management District to maintain wildlife openings on the Choctawhatchee River WMA in Holmes County, providing positive public relations and improving turkey habitat.

Public Outreach. The public frequently requests information on turkey hunting and management. FWC usually handles such requests by phone, e-mail or regular mail service to distribute appropriate information but occasionally requests are best addressed through personal contact and on-site visits. FWC also provided



information to the public through various news releases, magazine articles, brochures, social media posts, videos and media contacts both internally and through media outlets provided by the NWTF.

FWC works closely with the NWTF throughout the year. A 2007 Memorandum of Understanding between FWC, the NWTF and the Florida Chapter of NWTF provides support to continue the many mutually beneficial interests and activities of each party. The WTMP Coordinator currently serves on the Technical Committee of NWTF and serves as Technical Advisor to the Florida Chapter of NWTF's Board of Directors. Some of the related activities in which FWC participated during this fiscal year included board meetings of the Florida Chapter of NWTF, the Florida Chapter of NWTF's Super Fund committee meeting, the NWTF Technical Committee meeting and the 6th annual Florida Chapter of NWTF's "Osceola Invitational" Spring Turkey Hunt Challenge (as official scorer of the event).

WTMP administers a wild turkey registry program, which awards certificates to hunters harvesting an outstanding gobbler (male turkey). Depending on the area where the turkey was harvested, either an Osceola (Florida) subspecies or the Eastern subspecies Outstanding Gobbler certificate is awarded for gobblers meeting minimum standards (at least an 11-inch beard and 1 ¼-inch spurs). A certificate is also awarded for youth hunters who harvest their first gobbler to encourage these young hunters to continue hunting as they get older. Since the inception of this recognition program in 2001, 642 Outstanding Osceola, 183 Outstanding Eastern, and 500 First Gobbler certificates have been awarded. During FY 2018-19, two of the 26 First Gobbler certificates awarded went to youth harvesting their first turkey during the Youth Turkey Hunt Weekend.

Research and Development

Nesting Behavior Study. During FY 2017-18, WTMP completed its involvement on a multi-faceted research project being conducted in coordination with FWC's Fish and Wildlife Research Institute—Upland Game Bird Program, Tall Timbers Research Station, and the University of Florida. This project researched the use of GPS transmitters to better understand nesting behavior, both prior to and during incubation. During the study, researchers monitored female wild turkeys through the breeding and nesting period, gathering data on survival, movements, nesting attempts, incubation activity and brood survival. To aid in documenting incubation attendance and recess behavior of nesting hens, researchers placed "iButtons" (tiny temperature-logging devices) in nest bowls either prior to onset of incubation or during an incubation recess. Data stored on these devices informed researchers when hens were sitting on the nest and when they were away foraging, finding a drink, etc. Staff reviewed the final report for this project. Some of the main findings of this research are that females that take more recesses during incubation negatively impact the survival of their nests, and that GPS data are beneficial in defining breeding season chronology. This study was completed by a University of Florida graduate student in May of 2019. Currently two publications predicting behavior of nesting hens and the impacts of incubation recess behavior are in consideration for presentation at the National Wild Turkey Symposium in 2021.

Wild Turkey Gobbler Harvest Rate Study. FWC staff initiated a study in 2016 to investigate the relationship between harvest pressure on wild turkey populations and their survival. 142 male wild turkeys were captured from 2016 to 2019 and fitted with very high frequency radio-transmitters (here after "marked turkeys") to monitor their survival and causes of mortality; i.e., natural or hunter harvest. Marked turkeys were monitored weekly for survival throughout the non-harvest season (May-February) and daily during the harvest season (March-April). Apparent survival of wild turkeys was lower during the harvest season than during the non-harvest season and harvest was the most common cause of mortality. Natural mortality was higher among sub-adult marked turkeys while harvest mortality was higher among adult marked turkeys. Overall 26% (24 of 91) of adult males were harvested while only 8% (4 of 51) of sub-adults were harvested compared to natural causes of mortality in 16% and 27% of adults and sub-adults,



respectively. Marked turkeys located in areas of high harvest pressure (areas that result in more days an individual is exposed to hunting) had higher harvest mortality than marked turkeys located in areas of low harvest pressure. Harvest rates of adult males were approximately 12% in areas of low harvest pressure (i.e. quota hunt areas) versus approximately 36% in areas of high hunting pressure (i.e. statewide regulations). Our findings indicate that hunter harvest is the leading cause of mortality among adult male wild turkeys, and male wild turkeys in areas of higher hunting pressure have lower overall survival than wild turkeys in areas of lower harvest pressure. Estimated completions is December 2019.

Camera-Based Wild Turkey Abundance Survey Development. FWC staff have analyzed approximately 350,000 trail camera photos for wild turkeys and have about 175,000 photos remaining. Once completed, photos of wild turkeys will be used to estimate density on the same study areas as the Wild Turkey Gobbler Harvest Rate Study to determine density effects on hunter harvest rates. Estimated completion is spring 2020.

Program Direction

To further expand wild turkey management efforts throughout Florida, in 2006, a co-operative wild turkey biologist position was established through a partnership contract among the FWC, United States Forest Service, and NWTF. This partnership agreement was renewed several times over the years, most recently in the spring of 2015. Due to the success of this initial co-operative position, a second partnership contract was initiated in 2008 between FWC, the Florida Forest Service, and NWTF for another co-operative wild turkey biologist to further promote and achieve the mission of WTMP. Unfortunately, through restructuring of personnel within NWTF's organization, the initial co-operative position was lost to the partnership at the beginning of FY 2015-16. The remaining co-operative position was renewed in FY 2012-13 and again in FY 2016-17 to run through September 2019. This remaining position was initially established, in part, to promote habitat and forest restoration work on state forests. With requisite restructuring of work priorities due to the loss of the first co-operative biologist position, the remaining biologist position now assists with projects on national forests as well. NWTF has served as the employer for these positions and provides the necessary funding to complete work on the ground; however, the multiple partners coordinate closely on the development of an annual work plan and provide specific oversight for accomplishment of defined activities during Steering Committee meetings held bi-annually. WTMP works to incorporate priority items identified in Florida's 10-year Strategic Plan for Wild Turkey Management into the annual work plan for the remaining co-operative position. Foremost, this position is used to promote improved turkey habitat management on public and private lands, through involvement with various workshops and by working with individual land managers on specific restoration projects. This past year, the co-operative wild turkey biologist visited numerous WMAs and attended several partnership meetings to provide habitat management recommendations and restoration project guidance. Another area in which the co-operative biologist has been directed to focus is promotion of the hunting heritage, especially among youth and young hunters, to help grow the number of active hunters.

Because of the loss of the first co-operative biologist position, WTMP hired an OPS assistant coordinator in June 2017 to more fully accomplish the mission of WTMP and tasks identified in the strategic plan. This position assists the WTMP Coordinator with implementation of the statewide wild turkey management program and continuing review of emerging information and concepts on wild turkey life history and management to facilitate addressing management issues in a timely manner. This past year, the assistant coordinator visited numerous WMAs to discuss ongoing cost-share projects with managers and assisted with research trapping efforts in central Florida.

FWC maintains a Wild Turkey Standing Team that is comprised of WTMP staff, FWC staff from across the agency, and associate members from the NWTF. This team provides input and assistance to ongoing



program activities, emerging issues and specific tasks are assigned as appropriate. The team's ongoing efforts are primarily guided by the priority tasks and the implementation schedule outlined in the 10-year Strategic Plan for Wild Turkey Management. The team completed the revision of the 10-year strategic plan (2019-2028) and the plan has been approved by agency leadership.

The goal of the Strategic Plan for Wild Turkey Management is to "ensure healthy and sustainable wild turkey populations throughout the state while providing and promoting compatible uses of the resource." All efforts discussed in this report are undertaken to work toward achieving that goal. WTMP will continue to provide excellent customer service, increase positive contacts with conservation organizations, develop additional partnerships and provide quality hunting areas, all of which benefit wild turkeys and the citizens of the State of Florida.

