

FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
WILD TURKEY PERMIT PROGRAM
2005-2006 ANNUAL REPORT

Abstract: This report documents activities of the Florida Fish and Wildlife Conservation Commission's (FWC) Wild Turkey Management Program (WTMP) and associated use of Wild Turkey Permit Funds during fiscal year 2005-2006. Permit fund revenues and expenditures totaled \$488,060 and \$263,184.86, respectively. Program activities encompassed management projects, turkey restoration, data analysis, technical assistance, and project development and research. Funding for 35 management projects on 29 public wildlife management areas (WMAs) was cost-shared with the Florida Chapter of the National Wild Turkey Federation (FCNWTF). Data management functions included analysis of data from a mail survey of eligible spring turkey hunters and a survey of hunters participating in Special-Opportunity Turkey Hunts. Wild turkey monitoring of recently restored populations were continued in Holmes County and Guana River WMA. A supplemental stocking was conducted for the Everglades National Park, which involved the release of 31 turkeys. A cooperative research project, involving the University of Florida (UF), Tall Timbers Research Station (TTRS), and the WTMP, designed to refine the infrared camera survey technique for assessing and monitoring wild turkey populations, was completed. Additionally, technical assistance was provided to various organizations, private citizens, the media, and agency personnel, including site visits to 9 WMAs.

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Public interest in wild turkey management and hunting continues to be strong in the State of Florida. Particular interest is often given to the Osceola subspecies that is endemic to peninsular Florida. Because the wild turkey occupies a wide variety of habitat on private and public lands in all 67 counties of Florida, a comprehensive program, involving management, turkey restoration, technical assistance, data analysis, and research, is required. The WTMP of the Florida Fish and Wildlife Conservation Commission (FWC) coordinates these activities with other FWC programs and personnel, other agencies, conservation groups, and the general public. Revenues received primarily from the sale of turkey permits are used to accomplish the various program tasks.

Florida statutes, that became effective on June 1, 1986, require residents hunting wild turkeys in Florida to purchase and possess a \$5 turkey permit, or other license that includes this permit fee. Beginning July 1, 2003, non-resident turkey hunters were required to possess a \$100 non-resident turkey permit. The funds generated for the wild turkey program are to expand ongoing wild turkey efforts in the state without detracting from other fish and wildlife projects.

Pursuant to statutory requirements, this report documents the revenues and expenditures associated with the turkey permit fund for fiscal year 2005-2006. Activities conducted by the WTMP through the use of these funds are summarized.

TURKEY PERMIT REVENUES AND PROGRAM EXPENDITURES

The Florida Wild Turkey Stamp Act requires that generated revenues be expended for wild turkey research and management, with a maximum of 5% of gross revenues to be expended for administrative costs. During fiscal year 2005-2006, 24,965 resident turkey permits (\$5 each) and 2,170 non-resident turkey permits (\$100 each) were sold. The revenues from these permit sales, plus those derived from the sale of sportsman's licenses, totaled \$488,060. Total fiscal year expenditures were \$263,184.86. Expenditures included \$129,823.31 for salaries and benefits, and \$133,361.46 for management and research. In addition to wild turkey permit funds, \$94,151.50 in donated funds were received from the FCNWTF, a conservation organization dedicated to promoting wild turkey management, research, habitat protection, and hunting opportunities.

PROGRAM ACTIVITIES

The WTMP is charged with coordinating management and research activities across the state and providing a statewide approach to conservation and management of Florida's wild turkey populations. The stated mission of the WTMP is: "To conserve and enhance Florida's turkey population and its habitat, and promote compatible uses of the wild turkey resource." Such a broad program requires involvement of WTMP personnel in numerous activities. These activities are generally encompassed within five categories: management projects, turkey restoration, data analysis, technical assistance, and project development and research.

Management Projects

With continuing changes in quality and quantity of wild turkey habitat in Florida, management efforts continue to be vital to the WTMP's objective of maintaining turkey distributions across the state. Management activities funded by the WTMP have focused on the state's 5.5 million-acre WMA system because of the management opportunities they present and their associated funding needs. Management activities, such as mowing, prescribed burning, planting, and the creation of wildlife openings, have enhanced habitat on these areas for turkeys and other wildlife species.

During this past fiscal year, funds were made available for 35 projects on 29 WMAs (Table 1). Minor funding or project modifications were made in some cases to accommodate various circumstances. Much of this management work has been accomplished through a cost-share program with the FCNWTF. During fiscal year 2005-2006, the FCNWTF donated \$86,390 to cost-share WMA activities. They provided an additional \$7,761 for a research project to refine the use of infrared camera surveys for monitoring turkey populations (see Project Development and Research section). The FCNWTF funds were cost-shared with \$100,000 of turkey permit funds, and, in many cases, Commission equipment and personnel were provided for these WMA projects such that turkey permit funds comprised only a portion of the total project value. Moreover, volunteers from the FCNWTF assisted Commission personnel with project implementation on a number of WMAs.

Wild Turkey Restoration

Florida essentially completed its turkey restoration efforts in 1970; however, a couple of areas have been identified from time to time where "maintenance" restoration efforts have been warranted. In this regard a low or absent turkey population was documented in Holmes County in 1997. As a result, the entire county was closed to all turkey hunting, and the stocking of 121

turkeys at eight release sites took place over a two-year period beginning in 1998. Holmes County continues to be monitored for evidence of turkey population growth and expansion using annual bait-station surveys. No turkeys or turkey sign were observed at any of 29 bait stations in 1997, prior to stocking. However, in 2000, the annual bait-stations surveys were resumed (conducted in September of each year) to help monitor the potential growth and expansion of the turkey population in Holmes County. Bait-station use by turkeys of the 28 established stations (1 station was discontinued due to a landowner change) increased from 3 visitations in 2000 to 14 bait-station visits in 2003 and 2005 (the 2004 survey, with visitations at 12 bait-stations, was impacted by Hurricane Ivan). Another bait-station survey is planned for fall 2006.

Based on the results of the bait-station surveys, in conjunction with ancillary observation reports and the results of a statewide turkey distribution survey conducted in 2001, it appeared that the turkey distribution within Holmes County had expanded to the extent that reestablishment of limited spring season turkey hunting was feasible. Consequently, FWC Commissioners, in consideration of public input, approved a 3-day spring turkey season for all of Holmes County which was initiated in 2006. This hunt was quite successful in terms of hunter success and the support provided by local residents.

The 10,000-acre Guana River WMA in northeastern Florida historically supported turkeys, but indiscriminant hunting by individuals apparently disgruntled with the State's acquisition of this area, and habitat degradation due to lack of prescribed fire, are believed to have resulted in their demise. Improved management and surveillance since that time have returned this area to suitable turkey habitat. However, the area is essentially isolated from other wild turkey populations due to natural and man-made barriers (i.e., urban development), thus reducing its chances for natural repopulation. Consequently, in December 2002 FWC biologists and volunteers from the FCNWTF trapped 35 wild turkeys (15 males and 20 females) from nearby private lands and released them on Guana River WMA. A camera survey conducted during September 2003 resulted in turkeys being observed at three of the five baits sites, including several unmarked turkeys, indicating successful reproduction during the initial spring nesting season. The September camera surveys conducted during 2004 and 2005 both documented turkeys at only 1 of the 5 camera sites during each of these years, but recent hurricane impacts and extensive use of a couple of these sites by hogs likely influenced the survey results. Ancillary observations by FWC personnel, and others, indicate that these turkeys are persisting and reproducing on the area. Infrared-triggered camera surveys are planned for 2006 to further monitor this turkey population.

A turkey restoration project was initiated in 2000 for the Everglades National Park, at the

request of the U.S. Park Service and the FCNWTF. The original release of 29 turkeys (7 males and 22 females) resulted in documented reproduction, but monitoring by the U.S. Park Service suggested that while these turkeys persisted, they remained at low levels. A supplemental stocking was conducted in January 2006 which involved the release of 31 turkeys (11 males and 20 females). A Memorandum of Agreement between the Commission and the U.S. Park Service was created in an effort to improve the monitoring of these recently released birds. Preliminary results have documented successful reproduction this past spring. Monitoring will continue through the summer of 2009.

Data Collection, Management, and Analysis

One role of the WTMP is to maintain a database of survey records and harvest data. Fall turkey season surveys are conducted as part of a survey that addresses most game species hunted during the fall hunting seasons. A spring turkey season survey is also conducted from a random sample of eligible turkey hunters. Annual fall and spring turkey season harvest estimates are generated from survey responses (Table 2). Harvest data are also collected and maintained for WMAs that operate check stations. These data are used to determine area-specific hunter success rates (Table 3). The WTMP, in conjunction with the Commission's Fish and Wildlife Research Institute (FWRI), also conducts and analyzes an annual survey of hunters participating in Special-Opportunity Turkey Hunts. These data are used to calculate hunter success rates from these high quality hunts (Table 4) and evaluate responses associated with hunter satisfaction. Results from the survey of hunters participating in 2006 SOTMA hunts indicate that 94% of respondents were either very satisfied or satisfied with these hunts.

Technical Assistance

The WTMP, as well as other FWC personnel, is often called upon to provide information to internal personnel, various organizations, private citizens, and the media. Such assistance covers a wide range of topics including questions on management, survey techniques, hunting information and opportunities, data collection, and research issues.

Agency Assistance -- Assistance is frequently requested from Commission personnel concerning turkey population surveys, establishment of turkey hunting or hunter quotas on WMAs, and funding assistance for management projects (discussed above). During the course of the 2005-2006 activities, the WTMP visited 9 WMAs to provide input on wild turkey management or participate in turkey survey efforts. The WTMP also worked cooperatively with the Northwest Florida Water Management District to maintain wildlife openings on the

Choctawhatchee River WMA in an effort to provide positive public relations values and benefits to the recently restored turkey population in Holmes County.

The WTMP also provided ongoing assistance in management and operation of Special-Opportunity Turkey Management Areas (SOTMAs). These public hunting areas are to be developed on new WMAs that are suitable for providing high quality public hunting opportunities. Hunts on these areas are designed to provide a special opportunity to harvest an adult gobbler, minimize disturbance from other hunters, and maintain high hunter satisfaction values such as seeing and hearing turkeys. Seven WMAs were open as SOTMAs for the 2006 spring season.

Public Assistance -- Numerous requests are received from the public for information on turkey hunting and management. Usually, such requests are adequately addressed over the phone, e-mail, or by mailing hunting regulation and habitat management information. Additional public information was again made available this year with the distribution of a brochure on SOTMAs (discussed above), which was distributed to interested hunters. As necessary, public assistance requests are also accommodated through personal contact and on-site visits. This fiscal year, WTMS personnel made 7 on-site visits to private landowners to discuss turkey hunting, management, and/or research opportunities.

The WTMP participated in a number of public interaction forums including the Hunting Summit Conference in Orlando, participation at a NWTF JAKES Field Day Event (including a rocket-net demonstration), a presentation to the Georgia Pacific employees in Palatka, and a presentation on the distribution of wild turkeys in Florida at the 9th National Wild Turkey Symposium in Grand Rapids, MI. The WTMP also attended and participated in several FCNWTF board meetings, as well as the annual meetings of the NWTF's Technical Committee and the Southeastern Association of Fish and Wildlife Agencies Wild Turkey Technical Committee. These committees are comprised of turkey biologists and researchers from around the nation and from the 16 southeastern states, respectively, who exchange information on research, management, and other issues associated with the wild turkey.

Information was also disseminated to the public through various news releases, articles, and video. These news releases addressed the Holmes County turkey restoration project and the restoration of turkeys to the Everglades National Park. Additionally, several articles appeared in Florida newspapers or magazines relative to wild turkey management or research where the WTMP was quoted. The WTMP also assisted with a video segment for the NWTF on the reopening of turkey hunting in Holmes County.

The WTMP continues to administer a wild turkey registry program that awards certificates to hunters harvesting an outstanding gobbler. Dependent 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. Since the program's inception in 2001, 217 Outstanding Osceola, 66 Outstanding Eastern, and 138 First Gobbler certificates have been awarded.

Project Development and Research

For a number of years, biologists at several of the FWC's WMAs have been conducting turkey population surveys using infrared-triggered camera systems. The WTMP and FWRI continued its cooperative research project with the UF's Department of Wildlife Ecology and Conservation and TTRS, with additional funding through the FCNWTF, to evaluate specific assumptions and further refine techniques associated with these camera surveys. Objectives of this research include, among other things, determining the optimal spacing of camera stations, the effective radius of the baited camera stations, determination of the best index measure, and the optimal pre-baiting and survey periods. Work on the study was completed this year. The findings indicated that visitations to camera stations were too variable to provide reliable population estimates, thus the desired objectives for this study were not attainable. However, significant data was collected that can be used to make minimum turkey population estimates based on time and distance movements of individually identified turkeys between established camera stations. Additionally, other information regarding nesting, survival, causes of mortality, and habitat use will be evaluated for comparison with findings from previous turkey studies, particularly investigations conducted in Florida during the late 1960's and early 1970's.

In 1973 and 1977, the Game and Fresh Water Fish Commission (now the Fish and Wildlife Conservation Commission) conducted statewide assessments of wild turkey distributions. The WTMP initiated a similar survey during 2001. Wild turkey assessment surveys were mailed to 2,220 individuals, including FWC wildlife biologists and wildlife officers, land managers, natural resource professionals, antlerless-deer program participants, members of the Florida Chapter of the National Wild Turkey Federation, and others with knowledge of Florida's wild turkey resource. Respondents were then mailed county maps, for which they had indicated knowledge of turkey numbers on at least 1,000 acres, and asked to depict areas absent of turkeys, areas with low turkey populations, and areas with moderate to high turkey populations. As a result of these efforts, 604 individuals completed 1,179 county maps. These individual maps were then digitized into a Geographic Information System for analysis. Areas where more than one response was received were converted to a numerical scale (1 = absent, 2

= low, and 3 = moderate to high) and an abundance index was computed by calculating a simple average of all responses received for that location. The completed distribution map, which indicates that turkeys still occur in all 67 counties of the state, has been made available to the public for viewing through the Commission's Internet web page. Additionally, 300 posters of this distribution map were also printed for public distribution as well. Currently, survey data is being modeled with additional data layers to relate turkey population distributions and relative abundance to vegetative communities, land ownership, harvest records, and other suitable data layers. When these comparisons are completed, the GIS data will be used to identify areas of the state in need of review for additional management efforts (e.g., areas with good turkey habitat but absent or low turkey populations).

PROGRAM DIRECTION AND NEEDS

The FWC implemented a substantial agency reorganization effective July 1, 2004. This reorganization shifted two biologists from the WTMP to other agency programs, thus leaving a biological administrator and staff administrator as the primary program personnel. However, as mentioned above, considerable assistance has been provided by FWRI, and others, to assist with ongoing activities and program obligations. Additionally, a Wild Turkey Standing Team (WTST) was created, comprised of FWC staff from several organizational units (i.e., Law Enforcement, FWRI, Habitat and Species Conservation, and Regional Operations). This team is designed to provide input and assistance on ongoing program activities and emerging issues such that intra-agency viewpoints are obtained and specific tasks are assigned as appropriate. In this regard, the WTST initiated a process to draft a new wild turkey comprehensive management plan. An outline of this plan has been completed and assignments have been made relative to completing the various plan sections.

The WTMP will continue its mission of conserving and enhancing Florida's turkey population and its habitat, and promoting compatible uses of the wild turkey resource. Moreover, the WTMP will strive to improve customer service, increase positive contacts with conservation organizations, and provide additional quality hunting areas, all of which benefit wild turkeys in the State of Florida.

Table 1. Wildlife Management Area projects funded by the Wild Turkey Management Program during fiscal year 2005-2006.

Wild Management Area	Project Description	Project Cost
Babcock/Webb	Planting live oaks in old agriculture fields	\$2,000
Green Swamp	Mowing of wildlife openings and roads	\$4,380
Hilochee	Mowing of wildlife openings	\$2,390
Chassowitzka	Mowing of wildlife openings	\$1,150
Green Swamp West	Infrared camera turkey survey	\$1,066
Corbett	Planting native trees and shrubs for habitat restoration	\$10,000
Fisheating Creek	Planting native trees and shrubs for habitat restoration	\$13,458
Fisheating Creek	Roller-chopping to create wildlife openings	\$8,000
Hungryland	Planting native trees and shrubs for habitat restoration	\$10,000
Camp Blanding	Prescribed burning for habitat improvement	\$4,820
Camp Blanding	Planting and fertilizing wildlife openings	\$2,600
Osceola National Forest	Planting and fertilizing wildlife openings	\$10,000
Big Bend WMAs	Planting and fertilizing wildlife openings	\$3,000
Big Bend WMAs	Prescribed burning for habitat improvement	\$4,000
Big Bend Tide Swamp Unit	Road closures to reduce wildlife disturbance	\$1,000
Twin Rivers	Planting and fertilizing wildlife openings	\$2,500
Twin Rivers	Mowing/Clearing to improve turkey habitat	\$2,400
Pine Log	Planting and fertilizing wildlife openings	\$4,349
Bradwell Unit/ANF	Mowing to improve turkey habitat	\$2,000
Apalachicola National Forest	Planting and fertilizing wildlife openings	\$8,724
Blue Water Creek	Planting and fertilizing wildlife openings	\$8,594
Blackwater	Planting and fertilizing wildlife openings	\$10,000
Blackwater Hutton Unit	Planting and fertilizing wildlife openings	\$8,715
Box R	Planting and fertilizing wildlife openings	\$3,170
Dexter/Mary Farms Unit	Planting and fertilizing wildlife openings	\$5,000
Dexter/Mary Farms Unit	Infrared camera turkey survey	\$1,400
Tiger Bay/Rima Ridge Unit	Planting and fertilizing wildlife openings	\$5,000
Lake Woodruff NWR	Infrared camera turkey survey	\$500
KICCO	Purchase batwing mower	\$10,000
Apalachicola River WEA	Planting and fertilizing wildlife openings	\$7,213
Andrews	Maintain wildlife openings	\$2,000
Raiford	Planting and fertilizing wildlife openings	\$2,500
Raiford	Clearing/mowing to create wildlife openings	\$9,000
Seminole Forest	Planting and fertilizing wildlife openings	\$5,700
Seminole Forest Lake Tracy Unit	Planting and fertilizing wildlife openings	\$2,000

Table 2. Spring and fall wild turkey harvest estimates and 95% confidence limits for all available survey data analyzed since 1988.

Year	Harvest	95% Confidence Limits
<u>Spring Season</u>		
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 ^a	Na	Na
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 ^b	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	25,057	23,521 - 26,593
<u>Fall Seasons</u>		
1988	22,375	18,120 - 26,630
1989	13,908	11,123 - 16,693
1990	15,329	14,610 - 16,048
1991	12,043	10,125 - 13,959
1992	9,883	8,787 - 10,979
1993	15,819	14,649 - 16,989
1994	13,673	10,798 - 16,548
1995	11,722	10,266 - 13,178
1996	13,871	10,272 - 17,470
1997	12,112	10,487 - 13,737
1998	13,425	11,046 - 15,804
1999 ^b	6,699	5,802 - 7,596
2000	9,608	8,402 - 10,814
2001	5,466	4,417 - 6,475
2002 ^d	3,851	3,235 - 4,467
2003	5,514	3,885 - 7,676

^a Mail survey was not conducted.

^b The survey instrument was substantially changed, thus the harvest estimate is not readily comparable to previous years. Additionally, inconsistencies with the license database have likely contributed to the observed fluctuations in fall harvest estimates.

^c In 2005, the spring mail survey was conducted and analyzed by an outside firm, producing results that may have been affected due to differences in data management processes.

^d Beginning in 2002, the fall survey addressed hunting on private lands only.

Table 3. Harvest, hunter pressure (total man-days of effort), and hunter success (number of days of effort per turkey harvested) for selected Wildlife Management Areas (WMA) for the 2006 spring turkey season.

Wildlife Management Areas	Harvest	Pressure	Success
Lake Wales Ridge Royce Unit	8	15	1.9
Hickory Hammock	8	17	2.1
Croom	10	22	2.2
Seminole Forest Lake Tracy Unit	7	23	3.3
KICCO	19	91	4.8
Caravelle Ranch	33	163	4.9
Crew	7	35	5.0
Hilochee	4	23	5.8
Three Lakes Prairie Lakes Unit	21	131	6.2
Dinner Island	13	87	6.7
Half Moon	23	158	6.9
Spirit-of-the-Wild	4	28	7.0
Chassowitzka	9	63	7.0
Lake Marion Creek	7	53	7.6
Big Shoals	5	38	7.6
Jennings Forest	25	199	8.0
Tiger Bay	16	133	8.3
Seminole Forest	19	158	8.3
Richloam Baird Unit	17	147	8.6
Etoniah Creek	3	28	9.3
Arbuckle	3	28	9.3
Suwannee Ridge	2	20	10.0
Dupuis	17	173	10.2
Seminole Ranch	12	129	10.8
Potts	6	65	10.8
Raiford	2	22	11.0
Joe Budd	21	236	11.2
Tosohatchee	13	156	12.0
Twin Rivers	9	123	13.7
Flying Eagle	11	178	16.2
Relay	9	149	16.6
Tiger Bay Rima Ridge Unit	5	83	16.6
Salt Lake	5	84	16.8
Camp Blanding	14	269	19.2
Okaloacoochee Slough	10	194	19.4
Box R	1	20	20.0
Talquin	8	161	20.1
Andrews	5	104	20.8

Table 3. Continued

Wildlife Management Areas	Harvest	Pressure	Success
Three Lakes Prairie Lakes Unit	112	2,483	22.2
Flint Rock	4	100	25.0
Picayune Strand	5	128	25.6
Upper Hillsborough	10	263	26.3
Goethe	4	114	28.5
Buck Lake	3	86	28.7
J. W. Corbett	13	401	30.8
Gores Landing	1	31	31.0
Jumper Creek	9	280	31.1
Bull Creek	39	1,221	31.3
Tide Swamp	11	348	31.6
San Pedro Bay	2	67	33.5
Green Swamp	61	2,263	37.1
Hickory Mound	3	128	42.7
Blackwater Hutton Unit	1	48	48.0
Blue Water Creek	9	441	49.0
Aucilla	1	91	91.0
Spring Creek	5	468	93.6
Big Cypress	13	1,579	121.5
Overall	717	14,346	20.0

Table 4. Harvest, hunter pressure (total man-days of effort), and hunter success (number of days of effort per turkey harvested) for Special-Opportunity Turkey Management Area hunts for the 2006 spring turkey season.

Wildlife Management Area	Harvest	Pressure	Success
Triple N Ranch WMA	21	92	4.4
Ft. Drum WMA	9	54	6.0
Lake Panasoffkee WMA	5	60	12.0
Dexter/Mary Farms WMA	14	136	9.7
Homosassa WMA	6	36	6.0
Fisheating Creek WMA	8	35	4.4
Green Swamp West WMA	26	322	18.1
Overall	89	735	8.3