FLORIDA WILD TURKEY MOVEMENT AND LONGEVITY AS DETERMINED BY BAND RETURNS

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Since 1949, the Florida Game and Fresh Water Fish Commission has been actively engaged in trapping, banding and relocating native wild turkeys. Formerly, this was merely a supplement to the State turkey hatchery program. The pen-reared program, however, met its well-deserved demise in 1953. During the period that this relocation program has been active, band returns from these relocated wild turkeys have provided some interesting data on movement and longevity (Table 1). The percentages were derived from the total of 1,849 birds since the 176 turkeys trapped in the spring of 1961 had not been subjected to a hunting season and harvest at the time the data were compiled.

The 233 band returns from a total of 1,849 wild trapped turkeys represents a 12.6 per cent return which is extremely significant when compared with the results from Florida's turkey hatchery program. Of the thousands of birds pen-reared and released under that program, no band was ever recovered. These figures speak for themselves and it is obviously unnecessary to diagram which program produces the best results. Table 2 presents the time interval in years between banding and return. From a total of 233 band returns, 64.3 per cent were taken the first year after banding. This harvest emphasizes the advisability of trapping prior to the nesting season so that the released birds have the opportunity to reproduce before going through a hunting season. Otherwise, the program becomes an expensive put and take operation.

Table 3 represents the distance in miles traveled between the point of release and the point of recovery. This Table is derived from 93 returns of known distance. In addition, there were 103 band returns taken within the same management areas from which they were released. While these 103 returns are not included in the movement tables, it is safe to assume that most of these 103 returns came from within five miles of the release point because of the size of the areas involved. Over 75 per cent of the returns were taken within a two-mile radius of the release point and there is no apparent correlation between the movement and the time lapse between release and recovery. It can be noted also that 90 per cent of the returns were received within two years from banding. Of the extreme examples in distance and time, the four birds that traveled fifteen miles or more had been released only one to three years and the hen turkey that was retrapped ten years after banding had moved only six miles.

The band return from the turkey that moved twenty miles the first year actually moved this distance in two weeks since the return came from a road kill only two weeks after the release was made. It is, therefore, felt that when a considerable distance is involved in a return, this movement actually occurred during the first month or two following release and once the turkey becomes established in a particular habitat, annual range probably does not exceed more than a three-mile radius.

Table 4 presents banding data from the Fisheating Creek Management Area. There have been 331 turkeys banded and released in this management area; considerably more than on any other one area, due primarily to the arrangement with the landowner of the refuge where all of the trapping takes place. Band returns from this area are 30.8

TABLE I
BAND RETURN DATA
WILD TRAPPED FLORIDA TURKEYS
1949 - 1961

Year	Total Trapped	Total Band Return	Per Cent Return	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
1949	62	3	4.8		1		2								
1950	154	9	5.8		5		1			1	1				1
1951	122	6	4.9				1			1	3		1		
1952	69	4	5.8				4								
1953	44	6	13.6					3	2				1		
1954	211	9	4.3						4	2		2		1	
1955	171	23	13.5							15	4	2	2		
1956	202	41	20.3								27	7	3	3	1
1957	231	26	11.3									14	8	3	1
1958	173	32	18.5										20	6	6
1959	217	54	24.4											38	15
1960	193	21	10.9												21
1961	176*														
TOTALS	2025* (1849)	233		—	6	—	8	3	6	19	35	25	35	51	45
PER CENT		12.6		—	2.6	—	3.4	1.3	2.6	8.2	15.0	10.7	15.0	21.9	19.3

* In deriving percentages, the 1961 release figure was not added to the total banding figures since these bands had not gone through a hunting season thus affording no opportunity for harvest return.

per cent as compared with the statewide average returns of 12.6 per cent A combination of factors explains this situation. Due to the close similarity of habitat between the refuge and the management area, there would be less adjustment necessary and therefore movement out of the area would be reduced. Secondly, with seven check stations encompassing the area, the degree to which we are able to collect bands from harvested turkeys from the hunter is increased. Also, while the band return on the Fisheating Creek Area exceeds the statewide return by 18.2 per cent, 65 of the 93 returns were in the first year after release for a 69.8 per cent return of bands the first year after banding. This is close to the statewide first year return of 64.3 per cent.

In relation to longevity, the oldest turkey on record is the single hen turkey that carried a band for ten years. She was trapped in 1950 as a sub-adult at approximately ten months of age, in the Fisheating Creek

TABLE II

DYNAMIC TABLE BASED ON 233 BAND RETURNS FROM HARVESTED WILD TURKEYS

Survival Interval In Years	Number Alive Each Year	Number Returned Each Year	Per Cent of Total Alive At Start	Per Cent Returned Each Year
0 - 1	233	150	100.0	64.3
1 - 2	83	46	35.6	55.4
2 - 3	37	15	15.8	40.5
3 - 4	22	11	9.4	50.0
4 - 5	11	2	4.7	18.1
5 - 6	9	6	3.8	66.6
6 - 7	3	1	1.3	33.3
7 - 8	2	1	0.8	50.0
8 - 9	1	0	0.4	0.0
9 - 10	1	1	0.4	100.0
10 - 11	—	—	—	—

TABLE III

MOVEMENT AS DETERMINED BY BAND RETURN

Distance in Miles Between Release and Recovery	Number of Years Banded 1	2	3	4	5	6	7	8	9	10	Total	Per Cent
1	37	12	2								51	54.8
2	12	6			1						19	20.4
3	4	3		2		1	1				11	11.8
4		3									3	3.2
5	1										1	1.1
6	1									1	2	2.2
7		1									1	1.1
8	1										1	1.1
9												
10												
11												
12												
13												
14												
15		1									1	1.1
16												
17												
18			1								1	1.1
19												
20	1	1									2	2.2
TOTAL	57	27	3	2	1	1	1			1	93	
PER CENTS	61.3	29.0	3.2	2.2	1.1	1.1	1.1			1.1		100.1

93 Band returns of known distance — 103 additional band returns from somewhere in same management area as released.

TABLE IV
FISHEATING CREEK WILDLIFE MANAGEMENT AREA
RESTOCKING HARVEST BAND RETURN

Year	Total Kill (Checked)	Total Banded Release	1st Year Band Return		Total Band Return (1st Year—plus all other)		Per Cent of Total Kill Made up of 1st Year Band Return	Per Cent of Total Kill Made up of Total Band Return
			No.	Per Cent	No.	Per Cent		
1949	—	4	—	—	1	25.0	—	—
1950	—	11	2	18.2	3	27.3	—	—
1951	—	3	—	0.0	—	0.0	—	—
1952	296	20	5	25.0	5	25.0	1.7	1.7
1953	240	18	1	5.6	5	27.8	0.4	2.1
1954	229	13	1	7.7	2	15.4	0.4	0.9
1955	302	25	4	16.0	9	36.0	1.3	3.0
1956	396	41	11	26.8	20	48.8	2.8	5.1
1957	382	54	8	14.8	10	18.5	2.1	2.6
1958	303	52	12	23.1	14	26.9	4.0	4.6
1959	259	41	16	39.0	19	46.3	6.2	7.3
1960	222	20	5	25.0	5	25.0	2.3	2.3
1961	—	29*	—	—	—	—	—	—
TOTALS	2,629	302 (331*)	65	21.5	93	30.8	2.5	3.5

* In deriving percentages, the 1961 release figure was not added to the total banded figure since these bands have not gone through a hunting season thus affording no opportunity for return.

refuge and released approximately six miles from the trap site in the Fisheating Creek Management Area. Ten years later, this same turkey was retrapped in the refuge again. The original band was worn very thin, so it was removed and a new band put on in its place. This hen was then taken to the Collier Wildlife Management Area and released. If the turkey is still alive at this time, she is approximately 15 years of age. This hen obviously is an exception to the average life expectancy of about eighteen months.

The increase of band returns in the sixth year obviously deviates from the declining return curves (Table 2). This, at first, was somewhat perplexing until it was discovered that four of the six returns in this sixth year from banding were received from areas that had been restocked with turkeys trapped under the Pittman-Robertson Program in the early 1950's. Since these areas were closed to hunting for five years following release, these returns represent turkeys that had been subjected to only one year of hunting pressure instead of six. This must be considered in analyzing Table 2. It must be remembered that these data were derived from returns on turkeys banded after they had passed their most critical period, i.e., nesting and poult mortality. In addition, since over 90 per cent of the returns are from hunter kills, the information reflects gunning harvest rather than overall mortality factors. This must constantly be kept in mind since it would be fallacious to assume that hunting accounts for 90 per cent of a turkey population's overall mortality.

AN EYE LENS-NUTRITION STUDY OF PENNED EUROPEAN WILD HOGS[1]

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INTRODUCTION

The eye lens-nutrition study described in this paper was conducted as a part of the Tennessee Game and Fish Commission's European Wild Hog Research Project. One objective of the project is to develop an aging technique for the European wild hog (*Sus scrofa*). One technique under consideration is use of the dried eye lens weight.

A method of aging cottontail rabbits (*Sylvilagus floridanus*) was developed by using the dried eye lens weight (Lord, 1959). This technique has been tried with varying success for several game mammals: gray fox (*Urocyon cinereoargenteus* [Lord, 1961]); raccoon (*Procyon lotor* [Sanderson, 1961]); and antelope (*Antilocapra americana* [Kolenosky and Miller, 1962]).

The use of this technique poses one problem: the effect, if any, nutrition has on the eye lens weight. Lord reported that the lenses of pen-raised deer, presumably fed a high level of nutrition, were heavier than those of wild deer of corresponding age (Lord, 1962).

A controlled experiment was designed to determine if the eye lens weights of pen-raised European wild hogs are affected by nutrition.

PROCEDURE

Animals of the same sex were used in the study to eliminate any difference in eye lens growth that may occur between the sexes. By random selection males were chosen over female hogs. The selection of the 24 hogs from a total of 30 male hogs available was made by using a random numbers table. The hogs were placed at random into six pens with four hogs per pen. The estimated starting weight of the hogs was 20-30 pounds.

The experiment was a completely randomized design. There were

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