

THE COMPOSITION OF TURKEY POPULATIONS IN FLORIDA

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A series of fortunate circumstances and conditions has made it possible to get a large volume of data on sex and age ratios of turkeys in Florida. These circumstances are an active and successful trapping program, kill records from public hunt areas, general sight records, and feeder observation records.

The wariness of the birds, similarity of sexes and scarcity of turkeys in most states are some of the reasons that so little information is available on sex and age ratios of turkeys. For several years it has been obvious that more information is needed on sex ratios and ratios of adult to sub-adult to evaluate kill records, determine the proper restocking sex ratio, determine the proper bag limit and whether or not to allow an open season on hens. This information may also be useful in possible census techniques. These are practical applications of this knowledge. It is also important in providing a better understanding of turkey populations.

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METHODS

Part of these data came from five years' trapping on Fisheating Creek and part from four years' trapping in Polk County. Trapping is occasionally selective but provides the most reliable data available in separating the ages and sexes since the birds can be examined in the hand.

Trapping records are limited by the small number of birds trapped as compared to hunting records and sight records. Sight records, if accurately and carefully kept, will provide a mass of reasonably accurate data. Care must be taken to record all turkeys when they are seen. If this procedure is not followed, the observer will unconsciously record more gobblers than hens since gobblers are more spectacular.

The sight records were divided into two groups, one including the age as well as sex. This group was made between August and January when the sex of the sub-adult birds can be determined. The other group, made from January through July, records only the sex of the birds.

Feeder observation records were made to determine the amount of feeder use. The fact that the sexes were recorded makes them useful in determining the sex ratios and may indicate whether or not there is a preference for the feeder by one sex. However, one factor must be considered. Most of the feeder sight records are made from March through September during the period that hens are laying,

incubating and caring for a brood of poults. This may affect the reliability of the data to determine sex ratios.

Kill records have been collected from several public hunting areas. Some of these were open for gobblers only, so that kill records from only those hunt areas open for both sexes were used. Age could be determined if it were possible to employ trained personnel on checking stations, but since this is not possible, the checking station operators recorded the sex of the turkeys and cut off the last joint of the wing of some of the turkeys that were brought through the stations. These wings served a dual purpose. They gave information on age as well as a check on the station operators' records on sex ratios. This information is inconclusive at the present time.

The accuracy of the checking operators' records on the sex of the birds killed on the hunt depends upon several factors, primarily the skill of the operators in determining the sex and their efficiency and accuracy in recording this information. Both checking station operators and hunters tend to be somewhat biased in giving and recording this information. Hunters prefer gobblers for the greater trophy value and the checking station operators when in doubt will usually record the kill as a gobbler. This is borne out by the lower percentage of hens in the kill records as compared to the sight records and trapping records.

RESULTS

The sex and age ratios presented here are believed to be reasonably accurate and some of the factors may be somewhat compensatory. Both sex and age ratios will vary from season to season, year to year, and from one area to another. This variation will depend largely upon the success of the hatch if all others factors are equal.

Table 1 gives the percent of each sex and age group in each sample of the total population. It is of significance that the percentage in each sample is close and indicates that the data are basically accurate. The most significant point in this table is the small percent of the population that the sub-adult gobblers comprise as compared to the sub-adult hens. This will be obvious in the succeeding tables.

Table 1. Percent of each sex and age group in each sample, based on 4,037 birds.

Sample	Adult Hens		Sub-Adult Hens		Adult Gobblers		Sub-Adult Gobblers	
	%	No.	%	No.	%	No.	%	No.
Trapping								
Fisheating Creek	21	105	49	241	21	102	9	46
Trapping								
Polk County	19	36	43	82	22	42	15	28
All trapping combined	21	141	47	323	21	144	11	74
Sight records (Winter)	18	573	43	1,453	29	999	9	330
Total for sight and trapping	18	714	44	1,776	28	1,143	10	404

Table 2 shows the sex ratio of the sub-adults between late summer and January. It is obvious that the big majority of sub-adults are hens. This situation is reversed for adults as shown in Table 3.

Table 2. Sex ratio of sub-adult turkeys.

Sample	Hens		Gobblers	
	%	No.	%	No.
Trapping, Fisheating Creek	84	241	16	46
Trapping, Polk County	75	82	25	28
Trapping, Total	81	323	19	74
Sight records (Winter)	82	1,453	18	330
Total	82	1,776	18	404

Table 3. Sex ratios of adult birds.

Sample	Hens		Gobblers	
	%	No.	%	No.
Trapping, Fisheating Creek	51	105	49	102
Trapping, Polk County	47	36	53	42
Trapping total	50	141	50	144
Sight records (winter)	37	573	63	999
Total	39	714	61	1,143

The success of the hatch plays a large part in the success of the hunting season. This is shown by the higher percent of sub-adults of the total population at the time of hunting season (Table 4). The sub-adults should comprise a higher percent of the kill than is shown by the trapping and sight records since they are probably more vulnerable to hunting and more numerous.

Table 4. Adult:sub-adult ratios.

Sample	Adult		Sub-adult	
	%	No.	%	No.
Trapping, Fisheating Creek	30	105	70	241
Trapping, Polk County	31	36	69	82
Trapping total	30	141	70	323
Sight records (winter)	28	573	72	1,453
Total	29	714	71	1,776

Separating the hens into adults and sub-adults shows that about 70% are sub-adults and 30% are adults. Of the adults approximately 15% to 25% can be expected to be two-year birds. This indicates that the hatch of any given year will drop from 70% hens to 15% to 25% for the second year, or that 75% of the sub-adult hens are lost between the first and second year. Areas that were trapped and most of the areas from which sight records were taken were closed to hunting; therefore, this cannot be a hunting or poaching loss. The most logical explanation of this loss is that it is a nesting mortality since the hens are probably more vulnerable at this time than at any other.

Table 5 shows that there is no appreciable loss of sub-adult gobblers such as occurs with hens, which further substantiates the theory that the loss of hens is a nesting mortality. Another equally baffling aspect is the fact that in birds, males and females are supposedly equal at the time of fertilization of the eggs when large numbers are considered; yet between the time that the eggs are fertilized and the poults are big enough to sex by difference in size and conformation, there is a higher mortality of males than females.

Table 5. Adult:sub-adlt ratio of gobblers.

Sample	Adult		Sub-adult	
	%	No.	%	No.
Trapping, Fisheating Creek	69	102	31	46
Trapping, Polk County	60	42	40	28
Trapping total	67	144	33	74
Sight records (winter)	75	999	25	330
Total	73	1,143	27	404

Table 6 shows the sex ratio of birds as computed from all the available sources of information. It is felt that these figures are relatively accurate, but the sex ratio of the hunting data is believed to be a little high for gobblers. Since this could not be measured, the data were used without any correction.

Table 6. Sex ratio of all turkeys based on 10,827 birds.^a

Sample	Hens		Gobblers	
	%	No.	%	No.
Trapping, Fisheating Creek	70	346	30	148
Trapping, Polk County	63	118	37	70
Trapping total	68	454	32	218
Sight winter	61	2,026	39	1,329
Feeder records	48	120	52	135
Sight summer	60	1,731	40	1,166
Hunting	58	2,101	42	1,546
Total	60	6,432	40	4,394

^a If only sex ratios were involved, the data would be presented as males:100 females, but since the age factor is involved, it is more practical to present all the data in percentages.

DISCUSSION

In considering whether or not to permit hunting of gobblers only, it is first assumed that all hunters are honest and will not shoot a turkey unless they are absolutely sure it is a gobblers. It is also assumed that most hunters are not sure of the sex of a sub-adult gobbler, therefore, few hunters would shoot sub-adult gobblers for fear that they may be hens. The first assumption has to be fairly accurate or the law would not be effective anyway. The second assumption is not measurable for a majority of hunters.

We may assume that an honest hunter who is not absolutely sure of the difference between a young gobbler and a hen and is not allowed to shoot hens is at a definite disadvantage for two reasons. The first is that he cannot shoot 60% of the turkey population which is hens. The second reason is that of the remaining 40%, he can be sure of only 73% as being gobblers. Of every 100 turkeys seen, 60 will be hens. Ten will be young gobblers and 30 adult gobblers, thus there are 70 out of 100 he can't or won't shoot. There are probably cases where this is justified, but in most cases it is not, unless the population is very low.