

## Preliminary Report on the First Four Years of the Oklahoma Waterfowl and Upland Game Harvest Survey, 1958 to 1961

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### INTRODUCTION

Knowledge of the number and distribution of hunters, and annual harvest is valuable when open seasons are being considered. This report summarizes results of the first four years of a new mail survey of a sample of Oklahoma hunting license buyers to ascertain statewide harvest of upland game and waterfowl. It was started in 1958.

### PROCEDURES

Minor changes were made in survey techniques from year to year, but followed this general pattern. Each year a new mailing list was prepared from a stratified random sample by counties from state hunting licenses of the previous year. Prior to the first fall hunting season hunters were notified that they would receive a questionnaire after the last season closed. Three days prior to closing of the last season questionnaires were mailed. Three weeks later a second questionnaire was mailed to hunters who did not respond to the first one. Three weeks after the second mailing the survey was considered complete, and minor additional replies were not analyzed.

The number of licensed hunters varied less than four percent from 1958 sales during the four-year period (Table 1). After the first two years the sample size was enlarged in order to obtain more duck hunter reports. Only 576 duck hunter reports were received in 1959, and a minimum of 1500 were needed for sound statistical analysis according to Cen-

TABLE 1. LICENSE SALES, SIZE OF SURVEY SAMPLE AND RESPONDENTS TO MAIL SURVEY IN OKLAHOMA, 1958 TO 1961

Year	No. Hunting Licenses	Questionnaires Mailed		Respondents	
		Number	Percent of License Sales	Number	Per cent of total Licenses
1958	208,871	8,890	4.3	3,977	1.9
1959	200,559	8,860	4.2	3,455	1.7
1960	201,419	21,566	10.7	9,658	4.8
1961	204,951	22,681	11.1	9,733	4.7

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tral Flyway procedures (Williams, 1954). There were 1537 duck hunter reports in 1960 and 1086 in 1961.

Upland game data were treated to remove bias. Numbers ending in 0 - 5, the obvious bias numbers, were removed and tabulations were made for kill of each species by counties, regions (quarters of the state) and statewide.

The number of hunters for each species was computed by finding the percent reporting having hunted each, in the sample, and applying it to the total hunting license sales.

Full descriptions of procedures can be found in Pittman-Robertson projects reports W32R, W24D, and W83D in the offices of the Oklahoma Department of Wildlife Conservation, Oklahoma City, Oklahoma.

WATERFOWL HARVEST

Waterfowl seasons were shortened from 1958 to 1961 corresponding to the decreasing continental duck population (Table 2). The daily bag limit on ducks was decreased from four birds to three birds, with a closed season on redhead and canvasback ducks in 1960 and 1961.

TABLE 2. WATERFOWL SEASONS IN OKLAHOMA, 1958 - 1961

Year	Duck Season			Goose Season		
	Number Days	Period	Daily Bag Limit	Number Days	Period	Daily Bag Limit
1958	90	Oct. 18 - Jan. 15	4	75	Oct. 18 - Dec. 31*	5**
1959	60	Oct. 20 - Dec. 18	3	75	Oct. 20 - Jan. 2	5**
1960	60	Oct. 20 - Dec. 18	3	75	Oct. 14 - Dec. 27	5**
1961	30	Nov. 1 - Nov. 30	3	60	Oct. 14 - Dec. 12	5**

\* Canada and white-fronted goose season was only 60 days, closing December 16.

\*\* Bag and possession limit on geese could include no more than (a) one white-fronted goose, or (b) two canada geese or its subspecies, or (c) one canada goose and one white-fronted goose.

Among duck stamp buyers, 7 percent did not hunt in 1959, 27 percent did not hunt in 1960 and 22 percent did not hunt in 1961. Estimated duck harvest decreased from 1958 to 1960, then increased slightly (Table 3). The decrease from 1958 to 1960 corresponds with the decreasing number of ducks in North America and fewer duck hunters. Even though the continental duck population was lower in 1961 than in 1960, and there were fewer hunters afield, duck harvest was greater. This resulted from increased seasonal harvest per hunter, from 4.3 ducks per hunter in 1960 to 5.5 ducks per hunter in 1961. Duck hunters averaged being afield 7.5 days each per season in 1958 down to 5.0 days in 1961.

Estimated goose harvest dropped from 16,291 in 1958 to 9,327 in 1961 (Table 3). Goose hunters averaged from 1.2 to 1.4 geese per season in different years, and averaged from 3.7 to 4.5 days each afield.



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TABLE 4. WATERFOWL SPECIES COMPOSITION IN OKLAHOMA HUNTER'S BAG, 1958 TO 1961

Species	1958	1959	1960	1961
Mallard	51.9%	41.5%	43.0%	39.2%
Gadwall	2.7	3.1	5.3	4.4
Baldpate	1.4	.6	1.8	3.0
Pintail	5.5	6.6	6.2	5.4
Green-Winged teal	11.9	17.8	20.0	15.8
Blue-Winged teal	10.5	11.4	8.9	8.7
Shoveller	1.5	2.5	2.7	1.5
Wood Duck	1.1	2.2	2.1	2.7
Subtotal, Dabblers	86.5	85.7	90.0	80.7
Ringneck	*	*	*	.9
Canvasback	2.8	0.1	**	**
Redhead	4.3	5.0	**	**
Scaup	3.3	3.9	3.6	7.3
Goldeneye	*	*	*	.3
Bufflehead	*	*	*	.8
Ruddy	.5	1.8	1.7	.8
Subtotal, Divers	10.9	10.8	5.3	10.1
Unidentified	2.6	3.5	4.7	9.2
Total Ducks	100.0	100.0	100.0	100.0
Canada	51.3	67.5	71.9	67.4
Whitefront	1.3	.0	9.8	13.9
Snow	26.8	11.8	8.8	8.9
Blue	20.6	20.7	9.5	9.8
Total Geese	100.0	100.0	100.0	100.0

\* Not on questionnaire

\*\* Closed Season

TABLE 5. UPLAND GAME SEASONS AND BAG LIMITS IN OKLAHOMA, 1958 TO 1961

Species	Season Dates	Days	Daily Limit	Year
Dove	Sept. 1 - Oct. 20	50	10	1958-1959
	Sept. 1 - Oct. 30	60	15	1960-1961
Squirrel	May 15 - Jan. 1	231	6	1958-1961
Rabbit	No closed season or limit			
Quail	Nov. 20 - Jan. 1	19-20	10	1958-1960
	Nov. 20 - Jan. 15	26	10	1961
Pheasant	Nov. 14-15-16	3	3	1958
	Nov. 13-14-15	3	3	1959
	Nov. 4-5-6, 11-12-13	6	3	1960
	Nov. 3-4-5, 10-11-12	6	3	1961
Greater Prairie Chicken	Oct. 23-24	2	2	1959
	Oct. 21-22	2	2	1960
	Oct. 20-21	2	2	1961
Turkey	Nov. 17-18-19-20	4	1 Tom*	1960
	Nov. 16-17-18-19	4	1 Tom*	1961

\* Season Bag 1 Tom Turkey

TABLE 6. ESTIMATED UPLAND GAME KILL IN OKLAHOMA BY LICENSED HUNTERS, 1958 TO 1961

Species	Year	Number of Hunters	Estimated total kill	Average season bag	Average days for hunters
Quail	1958	121,249	2,689,515	22.2	
	1959	131,588	3,158,112	24.0	
	1960	77,541	1,364,722	17.6	4.9
	1961	102,199	2,340,357	22.9	5.2
Squirrel	1958	122,330	1,906,759	15.6	
	1959	120,418	2,095,273	17.4	
	1960	63,289	753,139	11.9	6.1
	1961	74,347	1,256,464	16.9	6.8
Rabbit	1958	133,090	2,659,138	20.0	
	1959	102,346	1,637,536	16.0	
	1960	37,572	424,564	11.0	6.2
	1961	39,560	362,765	9.2	4.5
Dove	1958	49,293	1,027,759	20.8	
	1959	49,711	924,624	18.6	
	1960	29,635	450,452	15.2	3.9
	1961	28,083	558,852	19.9	4.0
Ring-necked Pheasant	1958	9,110	26,651	2.9	
	1959	7,519	25,564	3.4	
	1960	7,635	20,615	2.7	2.1
	1961	10,180	32,810	3.2	2.2
Greater Prairie Chicken	1958	No open season			
	1959	2,764	4,643	1.7	
	1960	2,411	3,134	1.3	1.6
	1961	2,760	3,241	1.2	1.6
Turkey	1958	No open season			
	1959	No open season			
	1960	1,366	409	.3	1.7
	1961	1,946	984	.5	1.4

Most of the ducks harvested were dabblers (80.7 to 90.0 percent) (Table 4), with mallards being the most abundant species (39.2 to 51.9 percent). Canada geese made up most of the total goose bag (51.3 to 71.9 percent). Most blue, snow and white-fronted geese probably were killed in October. Annual fluctuations in kill of these species probably was caused by the time of their major flight through Oklahoma, and its relation to opening of the season.

#### UPLAND GAME HARVEST

Season dates, length and daily bag limits are summarized in Table 5. There were no changes or only minor changes in regulations for dove, squirrel, rabbit and prairie chicken. Quail season was extended 15 days into January, with regular three-day-a-week hunting, for the 1961 - 1962 season. Pheasant season was increased from one three-day week end to

two three-day week ends in 1960. The greater prairie chicken season was first opened in 1959. Turkey season was first opened in 1960.

Quail were hunted by the greatest number of hunters and more quail were harvested than other species during the four-year period (Table 6). They were followed in decreasing order by squirrel, rabbit, dove, pheasant, greater prairie chicken and turkey.

#### SUMMARY & CONCLUSIONS

The number of pheasant, prairie chicken and turkey hunters were verified by sale of a special hunting permit. An estimate of quail, squirrel, rabbit and dove harvest by non-licensed hunters is needed.

As the mail survey is continued additional available data should be analyzed regarding hunter distribution and compared with other study results.

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#### LITERATURE CITED

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