MISSISSIPPI MAIL SURVEY OF GAME --- HARVEST AND HUNTER EFFORT FOR 1989-90

by

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TABLE OF CONTENTS

	Page
TABLE OF CONTENTS	2
LIST OF TABLES	3
LIST OF FIGURES	6
INTRODUCTION	7
METHODS	8
RESULTS	11
DISCUSSION	13
ACKNOWLEDGEMENTS	15
REFERENCES CITED	16
TABLES	17
FIGURES	41

LIST OF TABLES

Table		Page
1.	Expanded statewide summary of the 1989-90 Mississippi mail survey of game harvest based on 228,974 small game license holders and 212,346 big game license holders	17
2.	Expanded statewide estimates of total harvest (and the variability of the estimates) for all game species in Mississippi during the 1989-90 hunting season	18
3.	Expanded statewide and regional summaries of DOVE hunting in Mississippi during the 1989-90 hunting season	19
4.	Expanded statewide and regional summaries of QUAIL hunting in Mississippi during the 1989-90 hunting season	20
5.	Expanded statewide and regional summaries of WOODCOCK hunting in Mississippi during the 1989-90 hunting season	21
6.	Expanded statewide and regional summaries of RABBIT hunting in Mississippi during the 1989-90 hunting season	22
7.	Expanded statewide and regional summaries of SQUIRREL hunting in Mississippi during the 1989-90 hunting season	23
8.	Expanded statewide and regional summaries of RACCOON hunting in Mississippi during the 1989-90 hunting season	24
9.	Expanded statewide and regional summaries of ALL DUCK hunting in Mississippi during the 1989-90 hunting season	25
10.	Expanded statewide and regional summaries of MALLARD, WOOD DUCK and OTHER DUCK hunting in Mississippi during the 1989-90 hunting season	26

Table		Page
11.	Expanded statewide and regional summaries of GOOSE hunting in Mississippi during the 1989-90 hunting season	27
12.	Expanded statewide and regional summaries of RED FOX hunting in Mississippi during the 1989-90 hunting season	28
13.	Expanded statewide and regional summaries of GRAY FOX hunting in Mississippi during the 1989-90 hunting season	29
14.	Expanded statewide and regional summaries of BOBCAT hunting in Mississippi during the 1989-90 hunting season	30
15.	Expanded statewide and regional summaries of COYOTE hunting in Mississippi during the 1989-90 hunting season	31
16.	Expanded statewide and regional summaries of ARCHERY DEER hunting in Mississippi during the 1989-90 hunting season	32
17.	Expanded statewide and regional summaries of ARCHERY BUCK and DOE hunting in Mississippi during the 1989-90 hunting season	33
18.	Expanded statewide and regional summaries of PRIMITIVE WEAPON DEER hunting in Mississippi during the 1989-90 hunting season	34
19.	Expanded statewide and regional summaries of PRIMITIVE WEAPON BUCK and DOE hunting in Mississippi during the 1989-90 hunting season	35
20.	Expanded statewide and regional summaries of REGULAR GUN DEER hunting in Mississippi during the 1989-90 hunting season	36

Table		Page
21.	Expanded statewide and regional summaries of REGULAR GUN BUCK and DOE hunting in Mississippi during the 1989-90 hunting season	37
22.	Expanded statewide and regional summaries of SPRING TURKEY hunting in Mississippi during the 1989 hunting season	. 38
23.	Expanded statewide and regional summaries of FALL TURKEY hunting in Mississippi during the 1989 hunting season	39
24.	Expanded statewide summaries of ALL DEER, BUCK and DOE hunting (combining all harvest methods) during the 1989-90 hunting season and ALL TURKEY hunting (combining spring and fall data) during the 1989	
	calendar year	40

LIST OF FIGURES

Figure		Page
1.	Questionnaire used for the 1989-90 mail survey of game harvest and hunter effort in Mississippi	41
2.	Cover letter mailed with the initial mailing of the 1989-90 survey of game harvest and hunter effort in Mississippi	43
3.	Post card used as the first reminder mailing to nonrespondents during the 1989-90 survey of game harvest and hunter effort in Mississippi	44
4.	Cover letter mailed with the second (and final) reminder mailing to non-respondents during the 1989-90 survey of game harvest and hunter effort in Mississippi	45
5.	Regional partitions utilized for region hunted most	46

INTRODUCTION

The purpose of game harvest surveys is to establish yearly indices of harvest and hunter effort for each game species. These indices provide trend data which allows staff to monitor changes in harvest and effort through time. When interpreting these data, it is important to consider habitat changes, species abundance, the current socioeconomic climate of the state as well as changes in management strategies.

The Mississippi Department of Wildlife Fisheries and Parks (MDWFP) uses a mail survey to obtain trend data on total harvest, average daily kill, average seasonal harvest, and total man-days hunted for each game species. The estimates obtained for each of these categories contain serious sampling, response and nonresponse biases, therefore the accuracy of these estimates is unknown. Filion (1980) provided a good review of these biases and their effect on the estimates. Recognizing that these biases exist and assuming all biases remain constant, the estimates obtained from the survey provide adequate indices for monitoring trends in hunter harvest and effort.

The primary objective of the mail survey for the 1989-90 hunting season was to obtain a reliable set of **statewide** indices for each game species in Mississippi. The secondary objective was to provide regional indices for these species.

The survey is also used as a tool to monitor hunter

attitudes and perceptions on specific issues. The results

of the survey are used to help guide management decisions.

METHODS

The sampling frame for the survey consisted of resident holders of a Type 00 - Sportsman, Type 01 - All Game Hunting and Fishing, Type 02 - Small Game Hunting, or Type 05 - Small Game Hunting and Fishing license purchased during the 1989-90 license year.

A 2.5 percent sample of these hunting license buyers was selected from the 176,165 licenses processed from July 1, 1989 - January 31, 1990. An approximate random sample was achieved by selecting license stubs whose license number ended in predetermined but randomly selected sets of terminal digits between 000 and 999. A different set of digits was selected for each of Types 01, 02, and 05. An optical scanning device (S6000 Burroughs Document Processor) was used to mechanically make the stub selections. Sampling was discontinued at the end of January to expedite mailing the survey immediately after the close of the February hunting season.

An initial sample of 3,767 licenses of Type 01, 02, and

05 was selected. Since approximately 19 percent of the selected license stubs lacked complete names and/or addresses, the 2.5 percent sample of stubs resulted in a 1.73 percent or 3,042 usable licenses. Names and addresses were keypunched for each usable stub.

A sample of Sportsman license holders comparable to the other types was achieved as follows. Based on a 9 year average 90.8 percent of the predicted yearly sales had been recorded by the end of January each year. Therefore the 1.73 percent sample of license holders in January would be about a 1.57 percent (0.908 x 0.0173 x 100) sample of total expected sales through June of 1990.

Because of the computerized and renewable aspects of Sportsman's licenses (Type 00), virtually all 89-90 Sportsman's license holders were accounted for by the end of January. Sales were 34,413 by February 1990. To achieve a sample of Sportsman license holders comparable to the other types, a computer generated random sample of 539 hunters or 1.57 of the total sales was selected. Both stub and Sportsman's license samples were combined into a single computer file for mailing purposes.

The initial mailing, consisting of the questionnaire (Figure 1), a cover letter (Figure 2) and a No. 9 postage-paid business reply envelope was mailed in a No. 10 window envelope on March 9, 1990 to the 3,591 sampled hunters.

Three weeks after the initial mailing, reminder post cards (Figure 3) were mailed to 2,247 sampled hunters who had not returned their questionnaire. The final mailing composed of the identical questionnaire, cover letter (Figure 4) and business reply envelope was mailed three weeks after the reminder post card mailing to the nonrespondents. First mailing questionnaires were given identification numbers from 100,001 to 103,591 while the final mailing was given a 200,000 numbering sequence to differentiate responses between mailings. Questionnaires returned four weeks after the final mailing were not considered in the analyses.

Questionnaire design and mailing procedures were outlined by Steffen (1981). Procedures for editing and data entry of returned questionnaires were also identical to Steffen (1981).

Estimates and their standard errors for each species were calculated for the following indices; total kill, average seasonal kill per hunter, proportion of licensed hunters, total licensed hunters, proportion of hunters who were successful, total man-days spent hunting, average days afield per hunter and the average daily kill. These indices were calculated both on a statewide and regional (Figure 5) basis.

The 1989-90 survey obtained information about two license years. Turkey harvest indices were partially

calculated from hunters who hunted during the spring 1989 turkey season which was the 88/89 license year. Indices for other species were determined for the 89-90 season only. Because of prior irregularities in the license sales structure, only surveys beginning with the 1982 - 83 season had well defined sampling frames with a known number of license buyers (Steffen 1981, 1983 a, b). Therefore spring 1989 turkey hunting indices were calculated based on the respondents who also purchased a big game license during the previous July 1, 1988 - June 30, 1989 fiscal year (Questionnaire Part B, question #10).

Estimates and standard errors of total turkey and mandays of effort were calculated as a linear combination of the spring 1989 estimates plus the fall 1989 estimates. The computer programs were altered to reflect these changes. All other calculations follow Steffen (1981).

RESULTS

Based on all three mailings, 547 (15.2 %) of the 3,591 questionnaires were returned as non-deliverable by the post office. Therefore 3,044 individuals were assumed to have been contacted to participate in the survey. Of these, 1,952 (64.1%) returned their questionnaires for possible analysis and 1,157 (37.9%) were nonresponses. Based on

those questionnaires returned 1,889 were answered and usable to some extent, 63 were returned after the acceptance deadline (4 weeks after the final mailing) and only 2 were considered completely useless.

Statewide expansions were calculated based on the total hunting licenses sold and accounted for by the end of June 1990. There existed 228,974 individuals licensed to hunt small game and 212,346 (Types 00 + 01) of these license holders also were eligible to pursue big game (deer and turkey) during the 1989-90 hunting seasons. The spring, 1989 turkey hunting estimates were based on the 232,529 big game license holders recorded in the 1988-89 license sales totals.

Based on the 1,889 usable responses 90.3 \pm 0.5 (SE) percent of all resident license holders actually participated in a hunting activity during the 1989-90 hunting season. Therefore an estimated 206,764 \pm 1,099 (SE) licenses actually utilized their license for hunting purposes.

The expanded statewide summaries of total harvest, average daily kill, average seasonal kill, the percent of hunters and the percent of total licenses that hunted are provided in Table 1 for all game species included in the survey. Table 2 provides the expanded statewide estimates of total harvest and the variability of these (standard

errors and 95 percent confidence limits) for all game species surveyed. Tables 3-8 summarize small game hunting on a statewide and regional basis. Waterfowl hunting is summarized in Tables 9-11. Tables 12-15 summarize fox (red and gray), bobcat and coyote hunting. Statewide and regional summaries of deer (buck and doe data from the archery, primitive weapon and gun seasons) and turkey hunting are provided in Tables 16-24. Statewide totals will not necessarily equal the sum of the regional totals. All figures were calculated independently and were the best statistical estimates available.

DISCUSSION

For management purposes, it should be reemphasized that the hunting data provided in this publication are only indices to harvest and effort and are to be used in conjunction with past and future mail surveys to determine trends. The current survey was conducted similarly to all past surveys and is therefore useful for comparison purposes.

Response and nonresponse biases continue to exist with the survey as previously noted by Steffen (1981).

Therefore discretion must be used when considering these data as absolute estimates. Assuming the biases remain

consistent over time, the best uses of these data are as indices for trend determinations.

As previously recommended by Steffen (1981), the annual survey should be continued with a sample of 3,000 - 4,000 sportsmen. Periodically (e.g., every 5 years) a survey of 11,000 - 12,000 hunters should be conducted to provide more precise estimates on a regional basis. The next large sample survey should be conducted after the 1991-92 hunting seasons. To avoid changes in biases, attention to the consistency of survey methodology should be continued in future surveys.

ACKNOWLEDGEMENTS

This survey could not have been accomplished without the conscientious efforts of many MDWFP personnel from all divisions. Special thanks goes to C. Barnett for invaluable contributions to the success of the survey. Appreciation is also extended to L. Blackwell, C. Blakeney, S. Jordan and D. Robinson for technical expertise. Accounting and data processing coordination was assisted by P. McDaniel and E. Gregory, respectively. Thanks also goes to D. Steffen.

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SUMMARY OF THE 1989-90 MISSISSIPPI MAIL SURVEY OF GAME HARVEST BASED ON LICENSE HOLDERS. EXPANDED STATEWIDE 228,974 SMALL GAME TABLE 1.

SPECIES	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MAN-DAYS	SEASONAL DAYS HUNTING	TOTAL	PERCENT OF TOTAL LICENSEES(A)
DOVE	2,033,899	5.89	21.85	93.1	331,484	3.58	105,457	46.1
QUAIL	363, 209	2.62	15.54	81.7	134,069	5.83	42,183	18.4
WOODCOCK	15,212	0.87	4.52	92	16,823	5.25	24,000	10.5
RABBIT	732,984	1.46	9.02	86.8	489,055	6.17	94,790	41.4
SQUIRREL	1,728,780	2.28	12.74	91.7	742,574	5.55	143,760	62.8
RACCOON	149,847	0.55	7.85	88.1	267, 606	14.89	38,304	16.7
ALL DUCKS	263,934	1.71	12.54	88.5	145,382	7.10	40,001	17.5
MALLARD	132,901	0.86	6.31	63.1				
Made BUCK	85,832	0.55	4.08	68.2				
OTHER DUCKS	45, 101	0.31	2.15	37.6				
GEESE	1,736	0.22	1 .8	57.1	7,343	4.23	22,667	6.6
RED FOX	4,804	0.08	1.10	83.9	53,971	13.83	24,728	10.8
GRAY FOX	3,069	0.05	1.10	75.0	52,234	21.72	23,394	10.2
BOBCAT	5,604	0.31	-	97.3	14,721	3.44	25,455	1.1
COYOTE	40,030	0.11	1.86	82.7	284,762	18.45	37,819	18.55
TOTAL DEER	262,386	0.082	1.39	54.1	3,109,769	16.78	188,213	88.6
BUCK	186,337	0.058	0.99	48.6	0.000		20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	200 mm and a company of the company
300	72,856	0.022	0.38	22.6				
ARCHERY DEER	28,744	0.064	09.0	34.7	436,114	9.39	61,160	28.8
BUCK	12,293	0.027	0.26	19.3				And the state of t
DOE	16,573	0.037	0.35	24.6				
PRIMITIVE DEER	35,585	0.115	0.63	40.1	287,552	5.26	68,968	32.5
BUCK	14,363	0.046	0.25	20.0				
8	20,318	0.066	0.38	25.8				
GUN DEER	200, 427	0.080	1.07	51.5	2,372,563	13.23	182,771	86.1
BUCK	160,068	0.065	0.88	47.2				
306	35,369	0.014	0.19	13.2				
TOTAL TURKEY	50, 154	0.096	0.97	் 52.9 ^{⊊ 5.}	505, 221	9.95	84,261	27.9
SPRING 1989	49, 100	0.097	,(Of 0.97	54.0	496,000	9.86	63,339	27.2
FALL 1989	740.	\$ •	ç	6	- 00 1	ر 10 10	20 a22	6

(A) DEER AND TURKEY PERCENTAGES BASED ON BIG GAME LICENSE HOLDERS; ALL OTHERS BASED ON SMALL GAME LICENSE HOLDERS.

뿔 P TOTAL HARVEST (AND THE VARIABILITY IN MISSISSIPPI DURING THE 1989-90 ESTIMATES OF GAME SPECIES EXPANDED STATEWIDE ESTIMATES) FOR ALL HUNTING SEASON. ผ่ TABLE

	TOTAL	STANDARD	ARD ERROR	95% CONFIDE	95% CONFIDENCE INTERVAL	
SPECIES	HARVEST	SE	fðråL(A)	LOWER LINIT	UPPER LIMIT	
DOVE	2,033,899	114,358	5.6	1,805,183	2, 262, 615	
QUAIL	363,209	56, 169	15.5	250,871	475,547	
WOODCOCK	15,212	4,145	27.2	6,922	23,502	
RABBIT	732,984	52,278	7.1	628,428	837,540	
SQUIRREL	1,728,780	77,829	4.5	1,573,122	1,884,438	
RACCDON	149,847	31,165	20.8	87,517	212,177	
ALL DUCKS	263,934	34,486	13.1	194,962	332,906	
MALLARD	132,901	19,968	15.0	92,965	172,837	
WOOD DUCK	85,932	13,961	16.2	58,010	113,854	
OTHER DUCKS	45, 101	7,514	16.7	30,073	60, 129	
GEESE	1,736	766	44.1	204	3,268	
RED FOX	4,804	1,045	21.8	2,714	6,894	
GRAY FOX	3,069	830	27.0	1,409	4,729	
BOBCAT	5,604	971	17.3	3,662	7,546	
COYOTE	40,030	5,395	13.5	29,240	50,820	
TOTAL DEER	262,386	10,271	3.9	241,844	282,928	
BUCK	186, 337	7,069	9. 8.	172, 199	200,475	
DOE	72,856	4,781	6.8	63,294	82,418	
ARCHERY DEER	28,744	3,004	10.5	22,736	34,752	
BUCK	12,293	1,665	13.5	8,963	15,623	
DO E	16,573	2,144	12.9	12,285	20,861	
PRIMITIVE DEER	35, 585	3, 168	8.9	29,249	41,921	
BUCK	14,363	1,665	11.6	11,033	17,693	
90E	20,316	2,127	10.5	16,062	24,570	
GUN DEER	200,427	9,393	4.7	181,641	219,213	
BUCK	160,068	6, 138	9.8 8.0	147,792	172,344	
8	35, 369	3,343	8.5	28,683	42,055	
TOTAL TURKEY	50, 154	3,967	7.9	42,220	58,088	
SPRING 1989	49,100	3,940	8.0	41,220	56,980	
FALL 4080	1 054	456	43.3	142	1 956	

HARVEST)

%=100(SE/T0TAL

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF DOVE HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. TABLE 3.

PERCENT HUNTERS PER REGION	23.55 (4.6) 688	45.2 (1.9) 688	(888 (888	19.9 (1.5) (888	5.6 6.9 688	PERCENT OF TOTAL LICENSEES	45:1 (1:1) 1,889	1 1 1 1 1 1 1
TOTAL	21,730 (1,625) 688	41,717 (2,140) 688	5,500 (849) 688	18, 377 (1,506) 688			105, 457 (2, 627) 1,889	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
AVERAGE SEASONAL DAYS HUNTING	(6.35) 160	3.29 (0.20) 309	(0:35) (41	3.63 (0.28) 136	3.51 (0.47) 37		3.58 (0.14) 692	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TOTAL	(10, 137 (10, 124) 1, 702	136,954 (10,967) 1,702	(3, 835 (3, 490) 1,702	66, 324 (7, 524) 1, 702	17, 489 (3, 656) 1, 702		331,484 (16,053) 1,711	
PERCENT SUCCESSFUL HUNTERS	91.4 (2.2) 162	94:2 311	95.1 (3.4)	94.2 (2.0) 137	91.9 (4.5)		93:1 (1:0) 697	
AVERAGE SEASONAL HARVEST	25.78 (2.91) 160	(19.50 (1.18) 310	24.80 (4.15)	22.07 (2.62) 137	22.57 (3.98) 37		21:85 (1:05) 694	
AVERAGE DAILY KILL	(0.42) 158	(0.38) 308	(1:00) (41)	5.83 (0.513 (36)	6.42 (0.85) 37		(0.23) 689	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
TOTAL	554,294 (74,997) 1,704	812,159 (84,330) 1,704	(30, 877) (1704	412, 933 (58,761) 1,704	112; 203 (26; 722) 1, 704		2 (033,898) (114,358) 1,713	
STATISTIC	ESTIMATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE)	ESTIMATE (SE) N		ESTIMATE (SE) N	
REGION	-	2	60	•	ហ	1	STATEVIDE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

LICENSEES EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF QUAIL HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. 7.08 (1.07) 89 (1.08 22.57 (11.83) 14 (0.24 (0.27 (0.27 4.51 (0.96) 14 (0.26) 172 62 188 8.1. 400 400 (21,397) (21,397) 42, 313 (24, 170) 1,710 STATISTIC ESTIMATE (SE) N ESTIMATE (SE) N ESTIMATE (SE) N STATEWIDE TABLE 4 REGION

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF WOODCOCK HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. TABLE 5.

PERCENT HUNTERS PER REGION	(7.5) (7.5)	36.0 (9.8) 25	8.0 (5.5) 25	32.0 (9.5) 25	8.0 (5.5) 25	PERCENT OF - LICENSEES	(0:5) 1,889	
TOTAL	534 (267) 25	1 201 (399) 25	267 (189) 25	1,067 (377) 25	267 (189) 25		24,000 (1,614) 1,889	
AVERAGE SEASONAL DAYS HUNT ING	3.00 (1.15)	8.75 (4.20) 8	(2:00 2)	3.38 (0.73)	4.50 (3.50) 2		5:25 (1:48) 24	
TOTAL	1, 502 (962) 1, 715	9,346 (5,337) 1,715	1,068 (844) 1,715	3,605 (1,466) 1,715	(1;076) (1;076) (1;715		(5,773) 1,715	1
PERCENT SUCCESSFUL HUNTERS	100.0 (0.0) 4	100:0)	100.0 (0.0)	100.0 (0.0) 8	100.0 (0.0) 2		100.0 (0.0) 25	
AVERAGE SEASONAL HARVEST	4.75 (2.50)	3.56 (1.13)	(6.50)	(4.13 (1.32) 8	89. 20.88		4.52 (0.88) 25	
AVERAGE DAILY KILL	(0.73)	(0:41 8	(0:19) 2	(0:32) 8	0.67 (0.52)		(0.24) 24	
TOTAL HARVEST	(1,713) 1,716	(4,403 (1,917) (1,716	(2,482) (1,716	4,403 (2,035) 1,716	801 (566) 1,716		(4, 145) 1, 716	1
STATISTIC	ESTIMATE (SE) N	ESTINATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE) N		ESTIMATE (SE) N	
REGION	-	2	8	•	ß	2	STATEVIDE	1

223.958	145, 040 145, 040 17, 130 1, 675 1, 675 1, 675 119, 887 119, 887 11, 675 119, 887 11, 675 11, 675 1	7, 723 (1, 583 (1, 786 (1, 786 (1, 583 (1, 583 (1, 575 (1, 575
(0.123 (0.14) (0.13) (0.13) (0.13) (0.13) (1.23)	100 40 00 00 100 500 -004 80 104- 500 556 46	
(0.30) (1.938 (0.13) (1.43) (1.48 (0.16) (1.36) (1.36)	40. 60. 200. 200. 200. 200. 200. 200. 200. 2	
1.29 8.16 (0.13) (1.03) 143 (1.48) (0.16) (1.36) (0.16) (1.36)	6. 673 (0.673) (0.884) (0.884)	
1.23 (0.16) (1.36) 58		
		7.994 (1.623) (1.3) 583 (1.3)
		PERCENT OF TOTAL LICENSES
(52, 984) (0,08) (0,57) (1,4) (1,4)	(31, 438) (6.34)	94,790 (2,596) (1,1)

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF SQUIRREL HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON 90,738 11,950) 1,668 88 20 08 08 08

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF RACCOON HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. 6.17 (2.23) 18 14, 933 (6, 303) 1, 702 94.4 (5.6) 13.21 (5.64) 00 80 80 80 80 -0 84.0 80 80 80 0.88 4-1,38 13, 161 (5, 155) 1, 705) STATISTIC ESTIMATE (SE) N ESTIMATE (SE) N STATEWIDE TABLE 8. REGION

ESTIMATE (25,953 (0.17) (0.19) (1.99) (1.00)	REGION	STATISTIC	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL	AVERAGE SEASONAL DAYS HUNTING	TOTAL	PERCENT HUNTERS PER REGION
ESTIMATE (77; 172 (6.13) (1.45) (1.89) 88.8 (45; 178) (6; 845) (6: 81) (1959) (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ESTIMATE (SE)	(25,059) 1,712	(0:17) (5:58	(2.39) (2.39) 60	93.3 (3.2) 60	63,008 (11,270) 1,708	(1:01) (1:01) 58	8,025 (1,018) 153	39 : 2 (4 : 0) 153
ESTIMATE (25.546) (6.69) (6.69) (15.92) (11.2) (11.27) (2.20) (1692) (16	2	ESTIMATE (SE) N	(17, 172 (17, 076)	(0:13) 51	10.89 (1.82) 53	86.8 (4:7) 53	45,178 (8,845) 1,708	(0.93) (5.13)	7 (959) (959) 153	34.6 (3.9) 153
ESTIMATE 10, 185 (1,21) (1,21) (1,27) (10,7) (1,08)	6.	ESTIMATE (SE) N	25,546 (15,143) 1,712	2.30 (0.69) 12	(8,61) 12	(11,2) (1,2)	(4,659) (1,708	(2, 20) (2, 20)	1 605 (462) 153	7.8 (2.2) 153
ESTIMATE (5: 648) (0.27) (2.59) (84.6) (5:773) (8.85) (481) (481) (5.773) (8.85) (481) (481) (6.173) (8.85) (481) (481) (6.173) (8.85) (481) (481) (6.181) (6.	4	ESTIMATE (SE) N	10, 185 (4, 620) 1, 712	1.21 (0,45) 15	5.07 (1.97) 15	80:0 (10:7)	8,446 (3,018) 1,708	4.20 08.20 88.20	2 006 (516) 153	9 (2:4) 153
ESTIMATE 263:934 (0.12) (1.54) 88:5 (145.382) (0.57) (2:001) (2:001) (157) (157) (1.57) (1.889) (1.712)	ß	ESTIMATE (SE)	15,648 (6,115) 1,712	(0.27) 13	9.00 (2.59) 13	84 · 6 (10.4) 13	(5,773) 1,708	(2.33) (2.13)	1 739 (481) 153	(2:3) (2:3) (5:3)
	STATEWIDE	. 300000 3	263 : 934 (34; 486) 1,716	(0,12) (0,12) (153	(2:54 (1:34) 157	88:5 (2:6) (157	145.382 (145.184) 1,712	(0,:57)	(2,001) 1,889	LICENSEES (O.9)

(65.93 (65.93 (125.05.12) 10. EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF MALLARD, WOOD DUCK, AND OTHER DUCK HUNTING IN WISSISSII

WALLE DURING THE 1889-90 HUNTING EASON

WALLARD THE THE THE THE THREE THRE SUCCESSFULY HUNTERS (1:03) (3.9) (0.31) (0.32) (0.34) (0.32) (0.58 (0.58 (0.58) (0.58 (0.58) 1.58 (0.13) 12) (0.06) 51 PERCENT SUCCESSFUL HUNTERS (13;3) (1;900) (3.7) (7.514) (14.2) (1.717) (6.59) (2, 39) (2, 39) (0.57) (0.69) (0.69) (0.69) (1.50) (1.75) REGION (1) STATISTIC HARVEST KILL HARVEST HUNTERS HARVEST HARVEST KILL HARVEST HARVEST HARVEST HARVEST (0.24) (0.07) (0.47) 00. 4.88. (4,904) 1,712 (8:222) 1:712 4 * * (\$\frac{6}{2}\text{Fig} \tag{0.00} \ta (13,981) 1,716 B. (6138) (1412) (11412) (11412) 85.0 (45.8) (4.8) (5.8) (6.4) STATELIDE (S.23) (6.23) (6.23) (3.23) (3.23) (3.23) (3.23) (3.52) (5.52) (6.53) (6.52) (7.72) 1 ESTIMATE 79.178 (15.980) (15.980) (17.12) (1

SEASON HUNTING 1989-90 Ϊ DURING MISSISSIPPI Ľ **HUNTING** GOOSE Ы SUMMARIES REGIONAL AND A STATEWIDE EXPANDED TABLE

F801					; ; io	ES) ; ;
PERCENT HUNTERS PER REGION	23. 13. 13.	7.5€ 7.00€	0 <u>0</u> 0 <u>0</u>	7.7 (7.7) 13	(7.7) (7.7) 13	LICENSEE LICENSEE (9:9) 1,889	; ; ;
ĺ					ļ <u>ā</u>		1 1 1 1
TOTAL	(231) 13	1,088 (377) 13	ဝဝၟႝၮ	138 138 138 138	486 486 486	2,667 1,574)	1 1 1 1
1 1 1						8	1
AVERAGE SEASONAL DAYS HUNTING	66. 66. 66. 66. 66.	(1:73 (2:73 (8)	÷.	.; %;	6.% (-j.)	#- #0. #00. #00.	i : :
SE		30		•		;	1 1 1 1
TOTAL	1, 335 1, 715	. 073 . 7488)	1,715)	134 481 715	801 715 715	7,343 2,728) 1,715	1
F							1
ERSE ERSE	⊢ @ო	ဝဓ်ထ	.	• <u></u> ;-	·-·	- C4	1
SUCCESSFUL HUNTERS				6; °	0. 	57.1 (13.7	1
	_						; ;
AVERAGE SEASONAL HARVEST	4 8 0 0 800	00 62 60 7	€.	°	بر چی	-0 -0 -38 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0	i t i i
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \							1 1 1 1
AVERAGE DAILY KILL	90 90 90 90	00 00 00 70 70 70	3.	 	0.50	(0) 11-) 12-)	1 1 1 1
(4 -	93					3)	1
TOTAL	802 (597) 714	(231) 1,714	1,7{9	0). _{7,7}	(401. (401.)	1,736 1,766)	; ; ; ;
HAR	-	-	-	•			1 1 1
ں							; ;
STATISTIC	ESTIMATE (SE) N	ESTIMATE (SE)	ESTIMATE (SE)	ESTIMATE (SE)	ESTIMATE (SE) N	ESTIMATE (SE)	1
STA	EST	ES	EST	EST (EST	EST	
						I O E	1 1 1
REGION	,	N	9	•	ر م	STATEWIDE	; ; ;
. A						TS ST	1

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF RED FOX HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. TABLE 12.

PERCENT HUNTERS	20.7 (7.7) 29	27:6 (8:4) 29	æ. €.54 €.08	27 · 6 (8 · 4) 29	17:2 (7:1) 28	PERCENT OF TOTAL LICENSEES 1,889
TOTAL	(327) 29	1 089 (377) 29	267 (189) 29	1 069 (377) 29		44.1 8.00 8.00 8.00
AVERAGE SEASONAL DAYS HUNTING	(0.65) 6	(3):88 554 8	. 50 . 50 . 50 . 50	31.00 (13.83) 8	(19:67)	(5.02) (5.02) 29
TOTAL	1,470 1,713	6,282 (4,181) 1,713	(1,610) (1,713	33, 150 (18, 193) 1,713	11,228 (10,698) 1,713	(23, 971 (21, 555)
SUCCESSFUL HUNTERS	.00 .00 .00 .00	(12.55) 85)	00.0 200.0 200.0	75.0 (16.4) 8	(24.5) (24.5)	83.9 (6.7)
AVERAGE SEASONAL HARVEST	 88 88	(0.38 88)	 888 888	1.00 (0.33) 8	0.50 (0.24) 5	(0.15) (0.15)
AVERAGE DAILY KILL	(0. (0. 19) (0. 19)	(0:17/ ₈)	(8:31 2)	00 00:03 80 80 80	00. 400. 400.	(0) 203 203 303
TOTAL	(327) 1,714	1 (8489 1 , 714	534 (422) 1,714	1 (069 (498) 1,714	868 (353) 1,714	4.804 (1,045) (2,038 (1,746)
STATISTIC	ESTIMATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE)	ESTIMATE (SE) N	ESTIWATE (SE)
REGION	-	7	σ	•	ú	STATEWIDE

REGION	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	SUCCESSFUL HUNTERS	TOTAL	SEASONAL DAYS HUNTING	TOTAL	PERCENT HUNTERS PER REGION
-	ESTIMATE (SE) N	534) 1,716	(0:08) (0:08)	1,33 (0,33)	100.0 (0.0) 3	1,503 (981) 1,714	4. 88. 88. 80.	(231) 20	(8:2) 20
2	ESTIMATE (SE) N	1,201 (550) 1,716	(0:31)	(0:42) 6	(16.7)	1 (981) 1,714	(0.84)	801 (326) 20	30:0 (10:5) 20
m	ESTIMATE (SE) N	1,7(6)	÷:	€.	€.	1,7(8)	÷.	0 000	000 000 000
•	ESTIMATE (SE) N	1,067 (462) 1,718	0.02 0.027 7	1.00 (0.27)	0.45 0.48 8.48	37,806 (18,585) 1,714	40.43 (15.50)	1 (967 (377) 20	40.0 (11:2) 20
D.	ESTIMATE (SE) N	267 (267) 1,716	0.05 0.05 20.05	0.67 (0.67)	88 88 88 88 88 88 88	10,954 (10,690) 1,714	89.00 .00.00 2	400 201)	15.0 20.0 20.0
									PERCENT OF TOTAL LICENSEES
STATEWIDE	ESTIMATE (SE) N	3 069 (830) 1,716	6 0 888 888	(0, 20, 20, 20,	(5.0 (9.9)	(22,334 (22,340) 1,714	21:72 (7:99) 18	23,394 (1,596) 1,889	10.2 (0.7) 1,889

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF BOBCAT HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. 21. €€® တက **8**6 66€ **8**6 66 66€ 60 0.0 0.0∞ (0.17) 00 STATISTIC STATEWIDE REGION

COYOTE HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON. EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF TABLE 15.

STATISTIC	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	SUCCESSFUL HUNTERS	TOTAL	SEASONAL DAYS HUNTING	TOTAL	PERCENT HUNTERS PER REGION
ESTIMATE (SE) N	(3,966) 1,711	(0.08 (0.04) 22	3.00 (0.91)	89.3 (6.0) 28	(59,722) (1,689)	(22.22) 22.22)	3 747 (703) 134	20:8 (3:5)
ESTIMATE (SE) N	15, 825 (2, 632) 1, 711	(0:31 (0:05)	(0:23) 60)	88.7 (4.4) 60	38,356 (10,482) 1,689	(1:34) 500	8,028 (1,019) 134	8.44 (4.3)
ESTIMATE (SE)	(1,621) (1,711	60 400 440	(0; 92) 102)	. 13.0 13.30	(6,154) (6,154) (689	(3.79) (3.79)	1 338 (422) 134	(2,3) (3,4)
ESTIMATE (SE)	6,959 1,711	00 000 2005 11005	. 25 . 25 . 25	76.9 (8:4) 26	93,948 (53,356) 1,689	33.00 (17.74) 21	3 479 (677) 134	19.4 4.4. 434.
ESTIMATE (SE) N	1,606 (887) 1,711	00 00 80 80 80 80	(0.59) (0.59)	50.0 (16.7)	18,844 (11,594) 1,689	15.44 (8.48)	1,338 (422) 134	7.5 134
		-						PERCENT 0 101AL LICENSEES
STATEWIDE ESTIMATE (SE)	40,030 (5,395) 1,716	(0:03) 114 114	1.86 (0.24) 139	82.7 (3.2) 139	284,752 (89,099) 1,691	18 . 45 (5.55) 114	37,819 (1,957) 1,889	#00 #008 #008

REGION	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL	SEASONAL DAYS HUNTING	TOTAL	PERCENT HUNTERS PER REGION
-	ESTIMATE (SE)	6.004 1,323 1,627	(0:067 (0:011)	0.64 (0.12) 72	38.9 (5.8) 72	89,939 (13,397) 1,622	9.68 (0.91) 71	9,397 (1,083) 349	20 92:26 469)
7	ESTIMATE (SE)	9,005 1,713) 1,627	0.00.00 0.00.00 0.00.00 0.00.00	(0.59) (0.59) (0.59)	28:8 (4:0)	161,681 (18,104) 1,622	(0:10) 300)	17,097 (1,433) 349	37 · 5 (32.6) 349
ø	ESTIMATE (SE) N	2,349 1,627	00 00 00 00 00 00 00 00 00 00 00 00 00	00. 90.33 95.03	25.5 (5.8) 55	(11, 138 (1, 129) (1, 622	8 1.035 54 3.4	7 (178 349 349	(25 349)
•	ESTIMATE (SE)	7 048 1 512) 1 6272)	(0.073 7033	(0.72 724 7457	37.5 (5.7)	91, 379 (12, 807)	9.97 (0.78) 70	9,397 (1,083) 348	20 (20.6 34.2 34.8
ហ	ESTIMATE (SE) N	1,566 (583) 1,627	0.056 (0.017)	00 80 - 80 -	(11:6) (11:6)	25, 921 (7, 484) 1,622	10.42 1.889 189)	2 (480 (568) 348)	n-ù 4.08
									PERCENT OF TOTAL LICENSEES(A)
STATEWIDE	ESTIMATE (SE) N	28,744 (3,004) 1,640	0.064 (0.006) 357	0.60 (0.06) 362	34:7 (2:5) 363	436, 114 (27, 596) 1, 636	8 : 38 (0: 40) 358	61, 160 (2, 270) 1, 795	28.8 (1.1) 1,795

32

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ARCHERY BUCK AND DOE HUNTING IN MISSISSIPPI EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF DURING THE 1989-90 HUNTING SEASON.

				BUCKS				DOES	
REGION	STATISTIC	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
-	ESTIMATE (SE)	2,219 (596) 1,627	0.025 (0.006) 71	0.24 (0.06) 72	20.8 (4.8) 72	3,785 (981) 1,627	(0.009) (71	0.09 (0.09) 72	29.2 (5.2) 72
7	ESTIMATE (SE) N	4;307 (1;185) 1;627	0.028 130 130	0.25 131 131	15.3 (3.2) 131	4 698 (987) 1,627	0.029 (0.006) 130	(0:27 (0:35)	(3.6) (3.6)
e	ESTIMATE (SE) N	1,044 (368) 1,627	0.017 (0.006) 54	(0.05) 55 55 55	7.4. 7.8.8 8.83	1,305 1,621)	(0.007) 54	(0.07) (5.07)	74.5 6.85 0.00
•	ESTIMATE (SE) N	3 002 (812) 1,627	00.00 00.030 00.000	(0:08) (0:72)	22:2 (4:9)	4 046 (945) 1,627	(0:008) 70	(0:42) (0:72)	36.8 (5.5)
ıs	ESTIMATE (SE) N	1,044 (452) 1,627	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	(0.42 (0.16) 19	811- 80 80 81	522 (261) 1,627	(0.015 -0015 -19	(0.09) (0.09)	7.00 6.00 8.00
STATEWIDE	ESTIMATE (SE) N	(1, 665) 1, 641	(0.027 (0.903)	(0.28 363)	(2:3) 363	16,573 (2,144) 1,640	0.037 (0.004) 357	0.35 (0.04) 362	24.6 (2:3) 362

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF <u>PRIMITIVE WEAPON DEER</u> HUNTING IN MISSISSIPPI BURING THE 1989-90 HUNTING SEASON. TABLE 18.

5 %5					-	ES(A)
PERCENT HUNTERS PER REGIO	22. (2.0) 423)	(23.8 42.3 8.33 8.33	16.3 423	22 22,0 20,0 20,0	(1:1) 423	7 EKCEN L L I CENSER 32 : 5 (1:1)
G 1					į	
AL ERS	2208	284 23 3	23 33 3	3338 3338	2 857 (605) 423	2468 795 795
TOTAL	12, 338 (1, 229) 423	18,572 (1,484) 423	8, 961 (1,056) 423	(1,223) 423)	2	58 958 (2,348) 1,795
ш .						
AVERAGE SEASONAL DAYS HUNTING	5.29 (0.40) 91	00.33 06.33 06.41	4.0 0.488	8.35 8.35 8.85	5.50 (0.75) 22	5.26 (0.18) 420
SEA		_)	J)	
KE	316 366) 326	337 326 326	362 310) 326	301 324 326	802 958) 526	5552 570) 632
TOTAL	62,816 (7,986) 1,626	88,337 (10,021) 1,626	39, 862 (5,610) 1,626	68,301 (8,314) 1,626	15,802 (3,958) 1,626	287, 552 (15, 570) 1, 632
CENT	43.2 (5.1) 95	37:1 (4:1) 143	37.7 (5.9) 69	39.4 (5.1)	50.0 (10.9) 22)	40.1 (2.4) 429
PERCENT SUCCESSFUL HUNTERS	<u>.</u> மே	E 4	37	33	3 <u>0</u>	400
AVERAGE SEASONAL HARVEST	0.69 0.10 95 95	0.55 143 (6.10)	(0.58 (0.12) 69	.00 .064 840 840	0.64 22 22	(00.63 429 (209)
SEAS	00	_ 00	- 00	99	09	
ш	()	(·	-7	
AVERAGE DAILY KILL	0. 125 (0.018)	0.104 (0.017)	0.131 (0.025) 68	(0.015) (0.015)	0.0.016 22.4)	00.115 (0.008)
. A		· - C		· · ·	Ú	
ST.	8, 572 (1, 544) 1, 635	10,520 (1,957) 1,635	5,325 (1,232) 1,635	7,922 (1,427) 1,635	818 (808) (635	35, 585 (3, 168)
TOTAL	8	2:-	8 <u>-</u>	1997	-72	30.
1	; ; ;					
STIC	ATE)	ATE	ATE	ATE	ATE	(ATE
STATI	ESTIMATE (SE) N	ESTIMATE (SE) N	ESTIMATE (SE)	ESTIMATE (SE) N	ESTIMATE (SE)	ESTIMATE (SE)
	. T	Ī				
8	i i i i					STATEWIDE
REGION	- -	~ ~	6	4	IG.	STA

(A) CALCULATED AS A PERCENT OF BIG GAME LICENSE HOLDERS ONLY.

PRIMITIVE WEAPON BUCK AND DOE HUNTING IN MISSISSIPPI EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF DURING THE 1988-90 HUNTING SEASON. TABLE 19.

STATISTIC HARVEST KILL DAILY DAILY DAILY DAILY DAILY STATISTIC HARVEST KILL (SE) (SE) (SE) (SE) (SE) (SE) (SE) (S	1 1 1 1 1	# # # # # # # # # # # # # # # # # # #			BUCKS				DOES	
ESTIMATE 2, 117 (0.048) (0.056) (1.535) (0.014) (0.068	REGION	STATISTIC	TOTAL		AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
2 655 (0.049) (0.059) (0.059) (0.059) (0.059) (0.059) 1,635 (0.004) (0.059) (0.059) (0.059) (0.059) (0.059) (0.059) 2 (0.075) (0.075) (0.075) (0.075) (0.075) (0.075) 1,635 (0.034) (0.035) (0.037) (0.040) (0.040) (0.041) 1,635 (0.041) (0.023) (0.074) (0.074) (0.074) (0.074) 1,635 (0.022) (0.023) (0.023) (0.022) (0.041) (0.023) 1,635 (0.022) (0.023) (0.023) (0.022) (0.041) 1,635 (0.005) (0.023) (0.023) (0.023) (0.023) 1,635 (0.005) (0.023) (0.023) (0.023) (0.023) 1,635 (0.006) (0.006) (0.006) (0.006) (0.006) 1,635 (0.006) (0.006) (0.006) (0.006) (0.006) 1,641 (0.006) (0.006) (0.006) (0.006) (0.006)	-	ESTIMATE (SE)	3 117 (818) 1,635	0.048 (0.011) 91	00.28 0.069 955	17.9 (4.0) 95	5,455 (1,139) 1,635	0.077 (0.014)	0.00 44.08 956	32.6 (4.8) 95
2 (857) (0.072) (0.08) (23.2) (2468) (0.058) (0.072) 1,635 (0.016) (0.08) (23.2) (23.2) (23.2) (2.00) 2 (857) (0.034) (0.023) (0.087) (0.087) (0.087) 1,635 (0.041) (0.039) (22.7) (1.638) (0.074) (0.099) 1,635 (0.046) (0.023) (0.09) (0.09) (0.09) 1,635 (0.046) (0.023) (0.09) (0.09) 1,635 (0.046) (0.023) (0.09) 1,635 (0.096) (0.096) (0.096) 1,635 (0.006) (0.096) (0.096) 1,635 (0.006) (0.096) (0.096) 1,635 (0.006) (0.096) (0.096) 1,641 (0.006) (0.096) (0.096) 1,641 (0.006) (0.096) (0.096)	7	ESTIMATE (SE) N	4, 676 (1,033) 1,635	0.044 (0.009) 142	0.24 (0.05) 143	86.07 8.6.64	4, 805 1, 808 1, 635	0.049 (0.009) 142	0.26 0.05 143	20.3 (3.4) 143
2 (857) (0.034) (0.23) (21:3) (5.065) (0.067) (0.08) 1, 635 (0.041) (0.23) (2:7) (1.68) (0.074) (0.14) (290) (0.041) (0.23) (2:7) (1.68) (0.074) (0.14) (1, 635) (0.045) (0.22) (0.22) (0.14) (1, 635) (0.045) (0.25) (0.25) (0.36) (1, 665) (0.066) (0.066) (0.066) (0.04) (1, 641) (0.066) (0.04) (0.04) (1, 641) (0.066) (0.066) (0.04)	e	ESTIMATE (SE) N	2 (857 1,635	(0.016) (0.016) 68	(0.32 (0.088)	23:2 (5:1) 69	2,468 (697) 1,635	0.059 (0.016) 68	(0.28 (0.07) 69	(5.0) (5.0)
(259) (0.041) (0.033) (22.7) (4468) (0.022) (0.14) 1,635 (0.022) (0.022) (0.14) (1,635) (0.022) (0.022) (0.14) (1,635) (0.026) (0.026) (0.36) (1,655) (0.006) (0.006) (0.006) (1,655) (0.006) (0.006) (0.006) (1,655) (0.006) (0.006) (0.006) (1,665) (0.006) (0.006) (0.006)	- 1	ESTIMATE (SE) N	2 857 (659) 1,635	0.034 (0.008) 91	0.23 945)	(4:2) 94	5,065 (1,103) (35)	(0.013) 91	0.00 0.08 0.08 0.08	(4:5) 94
14.363 0.046 0.25 20.0 20.318 0.066 0.34 (1.665) (0.005) (0.03) (1.8) (2.127) (0.006) (0.04) 1,641 (0.420	ın	ESTIMATE (SE) N	(290) 1,635	(0:041 22 22	(0.23 (0.28) 22 23	(8:7) (8:1)	1 169 (468) 1,635	(0.022) 22	0.41 (0.14) 22	31.8 (10.2) 22
	TATEWIDE	ESTINATE (SE)	14, 363 (1, 865) 1, 641	0.046 (0.005) 420	(0:25 (0:03) 429	20:0 (1:9) 429	20,316 (2,127) 1,641	0.086 (0.006) 420	0:36 (0:04) 429	25 . 6 (2.1) (429

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF <u>REGULAR GUN DEER</u> HUNTING IN MISSISSIPPI DURING THE 1888-90 HUNTING SEASON. TABLE 20.

(0.09) (55.8) (31,155) (3.61) (1,883) (7.4) (1.5) (1.09) (227) (1,883) (7.1) (1.0) (1.09) (2.2) (43,956) (3.42) (2.492) (1,341) (1.341) (1.341) (1.02) (3.8)	STATISTIC HARVEST	AVERAGE AVERAGE DAILY SEASONAL ST KILL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL	AVERAGE SEASONAL DAYS HUNTING	TOTAL	PERCENT HUNTERS PER REGION
52.2 492.538 13.19 68.736 515 1,558 0.42 2.492 50.3 317.292 13.23 23.624 50.3 377.292 13.23 23.624 50.7 569.027 1,558 14.15 40.841 50.7 569.027 1,558 13.45 1,341 41.8 198.035 13.45 1,341 110 1,558 13.45 1,341 1341 1,341	ESTIMATE 34,745 0.084 (SE) (3,474) (0.006) 1,589 227	1.09 (0.09 233		402, 612 (31, 155) 1, 558	(0.61) (227)	31,098 (1,883) 1,341	17:4 (1:0) 1.341
50. 3 177 1,558 (0.68) (1,675) (1,75) (1	ESTIMATE 80,448 (0.081) (7,543) (0.004) (1,589)	1.09 (0.06 515		902,538 (43,956) 1,558	13:19 (0:42) 502	68, 736 (2, 492) 1, 341	38.4 (1.3) 1,341
50.7 568,027 14.15 40,841 (2.9) (37,948) (0.58) (2,069) 306 1,558 295 1,341 (4.7) (22,743) (0.91) (1,351) (1,341	ESTIMATE 24, 322 0.078 (S. S. S	(0:10 176		317, 292 (27, 763) 1, 558	(0,68) 176	23,624 (1,675) 1,341	(0.9) 1,341
(4.7) (22,743) (0.91) (1,351) 110 (22,743) (0.91) (1,351) 1341	ESTIMATE 43,966 0.073 (3,949) (0.005) N 1,589 295	-0 2005 888		569,027 (37,948) 1,558	14: 15 (0:58) 295	40,841 (2,099) 1,341	22.8 (111) 1,341
PERCENT OF TOTAL	ESTIMATE 11,760 0.054 (SE) (2,093) (0,007) N 1,589 108	(0.79		198, 035 (22,743) 1,558	13.45 (0.91) 108	(1,351) (1,351)	8:2 1:341
							PERCENT OF TOTAL

(A) CALCULATED AS A PERCENT OF BIG GAME LICENSE HOLDERS ONLY.

STATEWIDE

AND DOE HUNTING IN MISSISSIPPI REGULAR GUN BUCK EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF DURING THE 1988-90 HUNTING SEASON. TABLE 21

				BUCKS				DOES	
REGION	STATISTIC	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	SUCCESSFUL HUNTERS	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFU HUNTERS
	ESTIMATE (SE) N	25, 492 (2, 684) 1, 591	(0.063 (0.005) 227	0.81 (0.07) 233	48 (3.3) 233	9,221 (1,501) 1,589	(0.003) (227	0 : 28 (0 : 04) 233	20.6 (2.7) 233
	ESTIMATE (SE) N	65, 265 (4, 560) 1, 591	(0:0070 (0:0004) (0:0002)	0.94 (0.06) 515	84.2 8.5.2 8.5.2 8.5.2	12, 428 (2, 227) 1, 589	(0.002) (0.002) 502	0.17 (0.03) 515	7.7 (4:4) 515
_	ESTIMATE (SE) N	21,488 (2,529) 1,591	0.068 (0.006) 176	(0.09) (177	48.6 (3.8) 177	2 (940 (728) 1, 589	(0.009 (0.002) 175	(0:03) 178	(2.3) 177
	ESTINATE (SE)	37,771 (3,589) 1,591	(00.0083 2005) 2005)	(0.91) 306	45.1 306	6 147 (952) 1,589	0.010 (0.002) 295	(0:14 306)	(2:0) 306
LO.	ESTIMATE (SE) N	10, 277 (1, 922) 1, 591	(0.047) (0.007)	(0.68 111)	39.1 (4.7) 110	1,589 1,589	(0.008 108()	00) 1:040 1:040	(2,5) (110
WIDE	STATEWIDE ESTIMATE	160, 068 (6, 138) 1, 641	(0) (0) 1,3002 1,356	0.88 (0.03) 1,391	47.2 (1.3)	35,389 1,639	0.014 (0.001) 1,355	(0:02) (390)	(3.2 (0.8)

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF SPRING TURKEY HUNTING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON TABLE 22

32:4 (32:3) 322 (2:6) 322 (1:6) 322 (1:6) 322 (1:6) 100 100 100 100 100 100 100 100 100 10	(1, 161 (1, 284) (1, 505) (2, 505) (2, 505) (3, 338) (4, 505) (4,	(69.83) (1.00) (88 16, 176 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	0.00 (9.50) (1.0	(0.87 (0.17) (0.17) (0.97) (0.97) (0.97) (0.97) (0.97)	(0.098 (0.0011) (0.0015) (0.0015) (0.0017) (0.0017) (0.0017) (0.0017) (0.0017)	81. 82. 81. 82. 82. 82. 82. 82. 82. 82. 82. 82. 82	ESTIMATE (SE) (SE) (SE) (SE) (SE) (SE)
22: 92:3) 22:2)	(1: 161 322 322	8.83 727 728)	88; 790 (16; 170)	50.0 (5:3)	(0.88 (0.13)	(0.098 (0.011)	9.766 (1.784) 1.500	MATE (E)
23:3 (2:4) 32:2	(1;309) 322	8 82 (1:17)	(17, 518 (17, 747) 1, 497	38.7 (5.7)	(0.12) 75	0.078 (0.011)	8,216 (1,864) 1,500	ESTIMATE (SE)
14:0 322 322	6,976 (1,025) 322	(1.48) 45	70,986 (14,584) 1,497	(7,3) (45)	(0.19) 45	(0.018) 45	8,526 (1,802) 1,500	ESTIMATE (SE) N
PERCENT HUNTERS PER REGION	TOTAL	SEASONAL DAYS HUNTING	TOTAL	PERCENT SUCCESSFUL HUNTERS	AVERAGE SEASONAL HARVEST	AVERAGE DAILY KILL	TOTAL	ISTIC

(A) CALCULATED AS A PERCENT OF BIG GAME LICENSE HOLDERS ONLY.

EXPANDED STATEWIDE AND REGIONAL SUMMARIES OF FALL TURKEY HUNTING IN MISSISSIPPI DURING THE 1989 HUNTING SEASON. 33.3 14.2 12.3 TABLE 23.

B) FALL TURKEY HUNTING WAS LEGAL UNLY IN REGIUNS 1 AND 3.

B) CALCULATED AS A PERCENT OF BIG GAME LICENSE HOLDERS ONLY.

IABLE 24	EXPANDED SIMILER TOWNER TO SUMMAKIES OF ALL DEEK, BUCK, AND DUE HOW ING IN MISSISSIPPI DURING THE 1989-90 HUNTING SEASON AND ALL TURKEY HUNTING (COMBINING SPRING AND FALL DATA) DURING THE 1989 CALENDAR YEAR IN MISSISSIPPI	COMBINING SE	PRING AND FAL	C DATA) DUKING	THE 1989 CALE	MISSISSIPPI DO ENDAR YEAR IN	KING THE 198 MISSISSIPPI	SWILING PONTING	SEASON AND ALL
SPECIES	STATISTIC	TOTAL	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL	AVERAGE SEASONAL DAYS HUNTING	TOTAL	PERCENT OF TOTAL LICENSEES(A)
DEER	ESTIMATE (SE) N	282, 385 (10, 271) 1, 638	0.082 1,397 397	(0,39 (0,05) (4,35)	54.1 (1:3) 1,437	3, 109, 769 (74, 582) 1, 602	16.78 (0.37) (398	188,213 (1,591) 1,795	88.6 (0.7) 1,795
BUCK	ESTIMATE (SE) N	186,337 (7,069) 1,641	(0.058 1, 3982)	(0.04) 1,437	48.6 1,437				
90E	ESTIMATE N	72,856 (4,781) 1,638	(0.001) 1,397	00.38 	22.6 (1.1) 1,436				
TURKEY	ESTIMATE (SE)	50,154 (3;867)	0.098 3405)	(0:87 (350)	52.9 (2.7) 350	505, 221 (35, 983)	(0.50) 347)	84,261 (2,982) 1,826	27.8 (1:0) 1,826

CALCULATED AS A PERCENT OF BIG GAME LICENSE HOLDERS ONLY.

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1989-90 MISSISSIPPI HUNTER QUESTIONNAIRE

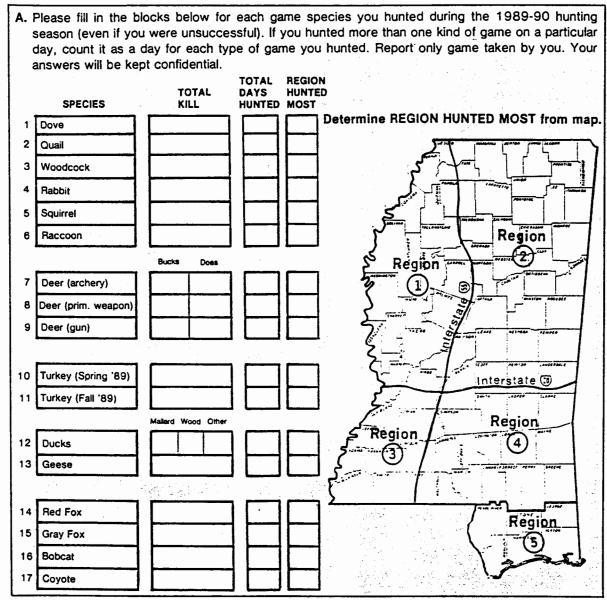


Fig. 1 Questionnaire used for the 1989-90 mail survey of game harvest and hunter effort in Mississippi.

6. Did you hunt bullfrogs in Mississippi during the 1989-90 season? (check one) [] Yes	 □ NO 7. Did you hunt moorhens (gallinules), rails or snipe in Mississippi during the 1989-90 senson? (check one) □ Yes □ No 	R. If you own or lease at least 50 acres would you be willing to pay a small fee to obtain due tags? (check one) \[\sumeqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq	9. Would you support having a portion of the wildlife management areas set aside for small game management (check one) Yes No	10. The 1989-90 fall and winter hunting seasons have just been completed. Did you purchase a license to hunt deer and turkey during the previous 1988-89 hunting seasons (not the one just completed)? □ Yes □ No	Recently there has been a great deal of interest in the black bear in Mississippi. II. Do you think learning more about black bear in Mississippi is? (check one)	☐ Very important ☐ Important ☐] Not important ☐ No opinion	12. Your age: years
B. Please answer the following: 1. How many days did you spend deer hunting during the regular gun season in each of the following?	(Number of days) Wildlife Management Areas Other public land (National Forest Service, National Wildlife Refuge, etc.) Private lands (excluding clubs or leases) Private hunting clubs or leases	2. What do you think about feeding corn, deer peltets, etc. (not fixed plots) to deer and/or turkey? (check one) It should not be allowed It should be allowed on lands which are not hunted It should only be allowed before and after hunting season on hunted lands	L. It should be allowed regardless whether the land is hunted or not \[\begin{align*} a	Small and large game hunting Company	नं	5. If you are a landowner or funting club member would you like more information on wildlife management? (check one)	Not sure Not a landowner or club member



STATE OF MISSISSIPPI Department of Wildlife, Fisheries and Parks

RAY MABUS
Governor

Dear Sportsman:

The Department of Wildlife, Fisheries and Parks is conducting a study to obtain reasonable estimates of game harvest, hunter effort and hunter opinions. Information supplied by you and other selected hunters will assist us in managing our game resources for the greatest public benefit.

For meaningful results, information is needed from everyone receiving a questionnaire since only a limited number of sportsmen can be contacted. Please complete the enclosed questionnaire as accurately as possible (even if you did not hunt) and return it in the addressed, stamped envelope.

Your answers will be kept confidential. The questionnaire has an identification number for mailing purposes only. This allows us to check your name off the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire or used in association with any of the information you provide. A prompt reply will be sincerely appreciated.

Yours for better conservation,

Vernon Bevill

Executive Director

VB:bjs

Enclosure

Fig. 2 Cover letter mailed with the initial mailing of the 1989-90 survey of game harvest and hunter effort in Mississippi.

Survey Section DEPARTMENT OF WILDLIFE, FISHERIES & PARKS

P. O. Box 451 JACKSON, MISSISSIPPI 39205



PRESORTED FIRST CLASS MAIL U.S. POSTAGE PAID PERMIT NO. 141

Dear Sportsman:

Recently we mailed you a questionnaire on your hunting experiences. If you have not yet answered the questionnaire, will you please do so today? If you have already returned the questionnaire, disregard this notice and we thank you very much for your cooperation.

Your response is important. It is the only way we have of estimating the harvest, effort and opinions of hunters in Mississippi for management purposes.

Sincerely.

Vernon Bevill
Executive Director

Fig. 3 Post card used as the first reminder mailing to nonrespondents during the 1989-90 survey of game harvest and hunter effort in Mississippi.



STATE OF MISSISSIPPI Department of Wildlife, Fisheries and Parks

RAY MABUS Governor

Dear Sportsman:

About six weeks ago I wrote to you seeking information about your hunting activities during the past season. As of today we have not received your completed questionnaire.

Our research unit has undertaken this project because of the belief that citizen participation should be taken into account in the formation of efforts which will provide the best hunting opportunities for Mississippi Sportsmen.

I am writing to you again because of the significance each questionnaire has to the usefulness of this project. Your name was drawn through a scientific sampling process. In order for the results of this survey to be as complete as possible it is essential that each person in the sample return their questionnaire. Even if you had little success or if you did not hunt at all, your answers are important to us. Please return the survey in the enclosed addressed, stamped envelope so that your response can be included in the results.

Sincerely for better conservation,

Vernon Bevill

Executive Director

VB/ccs

Enclosure

Fig. 4 Cover letter mailed with the second (and final) reminder mailing to non respondents during the 1989-90 survey of game harvest and hunter effort in Mississippi.

REGION HUNTED MOST

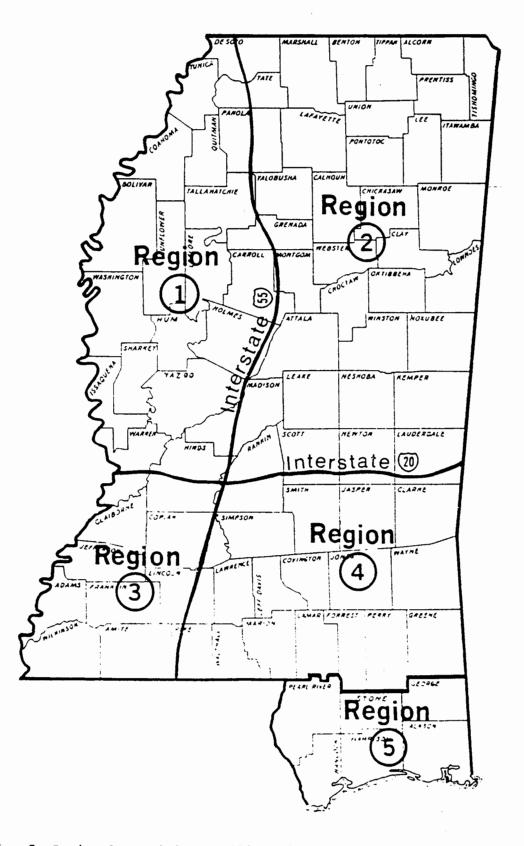


Fig. 5 Regional partitions utilized for region hunted most.