Resident Hunter Effort & Game Harvest Estimates for the 2004-2005 Mississippi Hunting Season

Prepared for the

DIVISION OF WILDLIFE
MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES & PARKS
P.O. BOX 451
JACKSON, MS 39205

By

Dr. Kevin M. Hunt, Kevin D. Brunke, Edith P. Fogarty,
Sharon D. Fuller, Nanda K. Joginipally, and Dawn J. Schaffer
Human Dimensions & Conservation Law Enforcement Laboratory
Forest & Wildlife Research Center
Mississippi State University
Mississippi State, MS 39762-9690

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INTRODUCTION

The primary purpose of the Mississippi resident hunter survey is to establish annual statewide and district estimates of hunter effort and harvest for each game species. These estimates provide trend data which allows Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) Wildlife Division staff to monitor changes in harvest and effort through time. The secondary purpose is to measure resident hunters' participation patterns, attitudes towards hunting and wildlife, and opinions towards agency programs and wildlife management tools. When interpreting this data, it is important to consider current wildlife management programs, habitat changes and availability, land use practices, species abundance, and the social and economic climate of the state.

Since 1974, a self-administered mail survey has been used to obtain total harvest, average daily kill, average seasonal harvest, and total man-days hunted for each game species among others. The estimates obtained for each of these categories are precise because of the large sample size used, however, because mail surveys contain sampling, response, and nonresponse biases the accuracy of the estimates are always of concern to researchers (Filion 1980). Nevertheless, similar methodologies used to conduct the mail survey over time help to hold constant these biases and the estimates derived from the survey should provide adequate estimates for monitoring trends in hunter harvest and effort.

The primary objective of the mail survey for the 2004-05 hunting season was to obtain a reliable set of statewide effort and harvest estimates for each game species in Mississippi. The secondary objective was to provide district estimates. The third objective was to monitor hunter attitudes and perceptions on specific issues. No effort was made to interpret the data presented here. The purpose of this publication is to compile existing information for future reference and to help guide future 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 or Type 03 – Small Game Hunting and Fishing licenses purchased during the 2004-2005 license year. A random sample of 4,000 license holders was selected to participate in this study from the 185,478 licenses processed from July 1, 2004 – June 30, 2005.

The survey process followed the Total Design Method (TDM) prescribed by Dillman (1978). This methodology pays particular attention to detail, persistence, and takes a personal approach to obtaining a response. This is accomplished, in part, by using personalized letters and envelopes processed with laser printers to simulate a first class mailing to differentiate it from "junk mail". The TDM uses a series of four mail-outs to help increase response rate: 1) An introductory letter, questionnaire (APPENDIX A), and postage-paid business reply envelope (i.e., a complete packet) were sent; 2) Ten days after the second mailing a post card that was sent to all hunters in the survey. The purpose of the post card was to remind hunters about the survey and to thank those whom had already returned a completed questionnaire. A phone number was provided on the post card in case the recipient had not received or misplaced their questionnaire so they could request another be sent; 3) Twenty-one days after the postcard mailing, a second complete packet was sent to all hunters who had not yet responded, and 4) Twenty-eight days after the second complete packet was sent, a third complete mailing was sent to all hunters who had not yet responded. Actual correspondence can be found in APPENDIX B. All surveys were numbered using a bar coding system printed on clear adhesive labels. When surveys were returned to Mississippi State University, the bar codes were scanned into a computer file and assigned with a "returned" status; this prevented respondents from receiving another mailing.

Procedures for editing and data entry of returned questionnaires were similar to Steffen (1981). Data entry involved entering data from the surveys into the computer using a Microsoft Access data entry screen that had been previously developed. First, non-numeric responses in the

survey were numerically coded for preparation for data entry. After all responses were converted into a numeric framework, responses from the surveys were data entered. The responses to the last question of the survey, which was open-ended, were typed into an MS Access file so comments could be queried by agency staff.

Effort and harvest estimates and their standard errors for each species were calculated for 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 per hunter. These estimates were calculated both on a statewide and district basis. Calculations were based on statistical programs originally developed by Steffen (1981) for mainframe computing, modified as necessary for desktop computing using SAS software.

RESULTS

A total of 4,000 questionnaires were mailed to resident hunters. There were a total of 1,488 useable questionnaires returned by hunters. Useable questionnaires included those who indicated they hunted at least one species one or more days during the 2004-05 season (n=1,283), and those who indicated they "DID NOT HUNT" on their returned survey (n=202). Thus, since harvest estimates are extrapolated to all hunter license holders, those who indicated they did not hunt were included in the database as hunting zero days and harvesting zero animals for each species. Questionnaires were checked for the completeness of responses where it was found that 3 individuals indicated their refusal to participate. When non-deliverable surveys (n=879) were excluded from consideration, an effective response rate of 47.7% was obtained.

Statewide expansions were calculated based on the 185,478 total hunting licenses sold and accounted for by June 30, 2005. There were 185,478 individuals licensed to hunt small game (Type 103) and 180,765 (Types 100 & 101) of these license holders also were eligible to pursue big game (deer and turkey) during the 2004-2005 hunting season.

The expanded statewide summaries of the total harvest, average daily kill, average seasonal harvest, percent of successful hunters, total man-days, average days hunted in the season, total number of hunters, and 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 error and 95 percent confidence limits) for all game species surveyed.

Tables 3-8 summarize small game hunting on a statewide and district basis. Waterfowl hunting is summarized in Tables 9-13. Tables 14-17 summarize fox (red and gray), bobcat, and coyote hunting. Statewide and district summaries of deer (buck and doe data from archery, primitive weapon, and gun seasons) and turkey hunting (spring and fall) are provided in Tables 18-26. Table 27 summarizes district and statewide estimates for feral hog. Tables 28-53 summarize hunter responses to demographic, participation, attitude, and opinion questions contained in the questionnaire.

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LITERATURE CITED

Dillman, D. A. 1978. Mail and telephone surveys: The Total Design Method. John Wiley & Sons, Inc., New York, NY. 325 pp.

Filion, F. L. 1980 Humans surveys in wildlife management. Pages 441-453 in Schemitz, editor. Wildlife Techniques Manual. 4th ed. Rev. The Wildl. Soc., Washington, D.C. 686 pp.

Steffen, D. E. 1981. Mississippi mail survey of game harvest and hunter effort for 1980-81. MDWFP Wildlife Division Technical Report, Jackson, MS.

TABLE 1. EXPANDED STATEWIDE COVERAGE OF THE 2004-05 MISSISSIPPI RESIDENT MAIL SURVEY OF GAME HARVEST BASED ON 185,478 SMALL GAME LICENSE HOLDERS AND 180,765 BIG GAME LICENSE HOLDERS.

SPECIES	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MAN-DAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT OF TOTAL LICENSEES (A)
DOVE	1,403,293	6.41	22.63	92.4	217,512	3.54	62,023	33.4
QUAIL	53,163	2.23	9.00	80.0	21,903	3.96	5,907	3.2
WOODCOCK	6,104	1.07	3.88	75.0	5,711	3.63	1,576	0.8
RABBIT	348,707	0.97	7.90	83.9	312,932	7.48	44,106	23.8
SQUIRREL	1,022,492	2.36	16.38	93.1	410,300	6.84	62,417	33.7
RACCOON	64,583	0.62	6.76	88.1	90,377	10.93	8,270	4.5
TOTAL DUCK	428,057	1.69	20.90	87.4	211,469	12.34	17,131	9.3
MALLARD	201,624	0.80	9.83	70.1				
WOOD DUCK	93,330	0.35	4.29	58.6				
OTHER DUCKS	133,104	0.55	6.78	54.0				
GEESE	14,768	0.18	2.86	64.3	43,712	15.86	2,757	1.5
RED FOX	1,576	0.01	1.33	66.7	27,062	45.67	1,182	0.6
GRAY FOX	1,182	0.01	1.00	66.7	26,074	44.00	1,182	0.6
BOBCAT	7,286	0.11	1.68	77.3	39,267	9.95	4,332	2.3
COYOTE	18,312	0.11	1.96	78.3	101,225	15.36	9,058	4.9
TOTAL DEER	255,732	0.07	1.97	72.1	2,759,020	22.76	129,780	71.8
BUCK	125,750	0.04	0.97	54.2				
DOE	129,982	0.04	1.00	50.6				
ARCHERY DEER	30,632	0.05	0.85	50.0	404,947	13.20	35,871	19.9
BUCK	9,472	0.01	0.26	19.7				
DOE	21,160	0.04	0.59	41.0				
PRIMITIVE DEER	42,119	0.08	0.83	55.0	382,599	8.57	50,582	28.0
BUCK	15,921	0.03	0.31	28.7				
DOE	26,198	0.05	0.52	38.6				
GUN DEER	182,982	0.08	1.50	69.9	1,893,840	16.94	121,115	67.0
BUCK	100,358	0.04	0.83	52.3				
DOE	82,624	0.04	0.68	43.1				
TOTAL TURKEY	32,042	0.07	0.89	51.4	323,974	9.93	36,073	20.0
SPRING 2005	28,818	0.07	0.85	50.9	313,572	9.93	34,058	18.8
FALL 2004	3,225	0.08	0.89	61.1	8,134	4.00	3,628	2.0
HOG	11,421	0.09	1.45	55.0	103,836	15.41	7,876	4.2

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

TABLE 2. EXPANDED STATEWIDE ESTIMATES OF TOTAL HARVEST (AND VARIABILITY OF THE ESTIMATES) FOR RESIDENTS FOR ALL GAME SPECIES IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

		STANDARD ERROR		95% CONFIDENCE INTERVAL	
SPECIES	TOTAL HARVEST	SE	AS % OF TOTAL (A)	LOWER LIMIT	UPPER LIMIT
DOVE	1,403,293	126,551	9.0	1,150,193	1,656,394
QUAIL	53,163	15,388	28.9	22,389	38,937
WOODCOCK	6,104	3,078	50.4	-51	12,259
RABBIT	348,707	38,147	10.9	272,415	424,999
SQUIRREL	1,022,492	127,997	12.5	766,499	1,278,485
RACCOON	64,583	17,256	26.7	30,073	99,094
TOTAL DUCKS	428,057	69,440	16.2	289,178	566,936
MALLARD	201,624	37,277	18.5	127,072	276,176
WOOD DUCK	93,330	16,449	17.6	60,433	126,228
OTHER DUCKS	133,104	27,116	20.4	78,873	187,335
GEESE	14,768	4,650	31.5	5,469	24,067
RED FOX	1,576	880	55.8	-184	3,335
GRAY FOX	1,182	622	56.0	-63	2,425
BOBCAT	7,286	3,199	43.9	889	13,682
COYOTE	18,312	4,361	23.8	9,592	27,032
TOTAL DEER	255,732	11,495	4.5	232,743	278,720
BUCK	125,750	6,351	5.1	113,049	138,451
DOE	129,982	7,285	5.6	115,413	144,551
ARCHERY DEER	30,632	3,880	12.7	22,872	38,391
BUCK	9,472	1,854	19.6	5,764	13,180
DOE	21,160	2,741	13.0	15,680	26,641
PRIMITIVE DEER	42,119	3,870	9.2	34,379	49,858
BUCK	15,921	1,871	11.8	12,180	19,660
DOE	26,198	2,803	10.7	20,594	31,803
GUN DEER	182,982	8,257	4.5	166,469	199,496
BUCK	100,358	5,280	5.3	89,800	110,917
DOE	82,624	4,892	5.9	72,841	92,408
TOTAL TURKEY	32,042	3,509	11.0	25,025	39,060
SPRING 2005	28,818	3,290	11.4	22,238	35,398
FALL 2004	3,225	1,062	32.9	1,102	5,348
HOG	11,421	3,167	27.7	5,087	17,755

(A) %=100(SE/TOTAL HARVEST)

TABLE 3. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF DOVE HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	384,673	5.84	22.50	90.7	64,947	3.84	17,097	28.1
	(SE)	75,220.95	0.88	3.76	3.15	11,412.23	0.55	1,757.49	2.57
	N	933	85	86	86	931	85	306	306
2	ESTIMATE	139,755	6.70	15.98	86.4	20,919	2.39	8,748	14.4
	(SE)	27,705.06	0.62	2.14	5.23	3,616.41	0.22	1,287.89	2.01
	N	933	44	44	44	931	44	306	306
3	ESTIMATE	250,684	7.24	25.74	95.9	34,267	3.58	9,742	16.0
	(SE)	49,318.86	0.80	3.62	2.86	5,980.69	0.37	1,355.27	2.10
	N	933	48	49	49	931	48	306	306
4	ESTIMATE	253,268	6.31	19.30	95.5	40,243	3.06	13,121	21.6
	(SE)	51,636.34	0.93	3.22	2.58	8,199.71	0.51	1,557.70	2.36
	N	933	66	66	66	931	66	306	306
5	ESTIMATE	158,243	5.77	24.12	87.9	27,493	4.18	6,561	10.8
	(SE)	39,861.72	0.71	4.53	5.77	6,044.53	0.59	1,122.23	1.78
	N	933	33	33	33	931	33	306	306
6	ESTIMATE	156,056	6.71	28.04	96.4	23,309	4.18	5,567	9.2
	(SE)	49,138.77	1.25	7.25	3.57	6,695.57	0.93	1,036.59	1.65
	N	933	28	28	28	931	28	306	306
STATEWIDE	ESTIMATE	1,403,293	6.41	22.63	92.4	217,512	3.54	62,023	33.4
	(SE)	126,550.18	0.41	1.76	1.50	17,277.07	0.23	2,852.57	1.54
	N	942	311	315	315	938	311	942	942

TABLE 4. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF QUAIL HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	16,575	2.21	10.50	87.5	7,506	4.75	1,579	28.6
	(SE)	10,357.59	0.49	5.79	12.50	4,268.41	2.27	556.01	8.69
	N	940	8	8	8	939	8	28	28
2	ESTIMATE	8,090	4.80	13.67	100.0	988	2.50	592	10.7
	(SE)	5,235.27	0.32	4.91	0.00	814.22	1.50	341.40	5.95
	N	940	2	3	3	939	2	28	28
3	ESTIMATE	5,722	1.12	5.80	60.0	5,136	5.20	987	17.9
	(SE)	3,554.17	0.60	2.80	24.50	2,719.01	1.66	440.27	7.37
	N	940	5	5	5	939	5	28	28
4	ESTIMATE	12,628	4.27	12.80	60.0	2,963	3.00	987	17.9
	(SE)	8,290.89	2.18	6.89	24.50	1,462.49	0.71	440.27	7.37
	N	940	5	5	5	939	5	28	28
5	ESTIMATE	3,157	2.00	5.33	100.0	1,580	2.67	592	10.7
	(SE)	2,213.66	1.21	2.60	0.00	1,081.25	1.20	341.40	5.95
	N	940	3	3	3	939	3	28	28
6	ESTIMATE	5,920	2.14	7.50	75.0	2,765	3.50	790	14.3
	(SE)	4,266.52	1.22	4.50	25.00	1,502.41	0.87	394.00	6.73
	N	940	4	4	4	939	4	28	28
STATEWIDE	ESTIMATE	53,163	2.23	9.00	80.0	21,902	3.96	5,907	3.2
	(SE)	15,387.17	0.45	2.08	7.43	5,687.31	0.73	1,061.71	0.57
	N	942	28	30	30	940	28	942	942

TABLE 5. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF WOODCOCK HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	3,154	2.67	8.00	100.0	1,183	3.00	395	28.6
	(SE)	2,297.57	1.11	2.00	0.00	1,004.85	2.00	278.60	18.44
	N	941	2	2	2	941	2	7	7
2	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	941	-	-	-	941	-	7	7
3	ESTIMATE	394	0.50	2.00	100.0	788	4.00	198	14.3
	(SE)	394.21	-	-	-	788.43	-	197.11	14.29
	N	941	1	1	1	941	1	7	7
4	ESTIMATE	394	0.29	1.00	50.0	1,380	3.50	395	28.6
	(SE)	394.21	0.33	1.00	50.00	985.03	0.50	278.60	18.44
	N	941	2	2	2	941	2	7	7
5	ESTIMATE	0	0.00	0.00	0.0	986	5.00	198	14.3
	(SE)	0.00	-	-	-	985.54	-	197.11	14.29
	N	941	1	1	1	941	1	7	7
6	ESTIMATE	197	1.00	1.00	1.0	197	1.00	198	14.3
	(SE)	197.11	-	-	-	197.11	-	197.11	14.29
	N	941	1	1	1	941	1	7	7
	ESTIMATE	6,104	1.07	3.88	75.0	5,710	3.63	1,576	0.9
STATEWIDE	(SE)	3,077.15	0.39	1.49	16.37	2,229.76	0.65	554.84	0.30
	N	942	8	8	8	942	8	942	942

TABLE 6. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF RABBIT HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	81,634	1.06	8.50	77.1	72,859	7.68	9,605	23.0
	(SE)	20,554.99	0.20	1.79	6.13	18,475.96	1.63	1,350.59	2.92
	N	927	47	48	48	919	47	209	209
2	ESTIMATE	66,828	1.35	10.77	84.0	45,815	7.57	6,203	14.8
	(SE)	17,417.48	0.26	2.10	6.72	13,000.85	1.69	1,095.83	2.46
	N	927	30	31	31	919	30	209	209
3	ESTIMATE	52,822	1.13	13.20	95.0	27,045	7.44	4,002	9.6
	(SE)	22,139.85	0.45	4.82	5.00	13,853.53	3.49	885.58	2.04
	N	927	18	20	20	919	18	209	209
4	ESTIMATE	61,026	1.04	5.65	88.9	57,924	5.52	10,805	25.8
	(SE)	11,448.91	0.14	0.76	4.32	11,811.73	0.85	1,427.62	3.04
	N	927	52	54	54	919	52	209	209
5	ESTIMATE	36,816	1.13	6.13	80.0	32,494	5.55	6,003	14.4
	(SE)	9,216.40	0.27	1.09	7.43	9,180.41	1.22	1,078.61	2.43
	N	927	29	30	30	919	29	209	209
6	ESTIMATE	30,813	0.59	5.92	88.5	42,585	8.44	5,202	12.4
	(SE)	8,731.72	0.16	1.25	6.39	13,756.19	2.20	1,006.37	2.29
	N	927	25	26	26	919	25	209	209
STATEWIDE	ESTIMATE	348,707	0.97	7.90	83.9	312,932	7.48	44,106	23.8
	(SE)	38,146.07	0.10	0.73	2.46	37,369.65	0.77	2,574.14	1.39
	N	942	209	224	224	927	209	942	942

TABLE 7. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF SQUIRREL HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	183,654	2.07	13.94	96.9	88,333	6.73	13,177	22.4
	(SE)	51,469.27	0.47	3.56	2.16	19,817.61	1.28	1,576.03	2.45
	N	915	64	65	65	905	64	290	290
2	ESTIMATE	139,666	2.43	17.23	87.5	57,590	7.21	8,109	13.8
	(SE)	35,215.94	0.41	3.47	5.30	15,465.15	1.59	1,254.39	2.03
	N	915	39	40	40	905	39	290	290
3	ESTIMATE	51,083	2.28	10.50	91.7	22,339	4.74	4,865	8.3
	(SE)	14,183.70	0.51	2.05	5.76	6,580.75	1.02	980.49	1.62
	N	915	23	24	24	905	23	290	290
4	ESTIMATE	288,251	2.78	20.03	95.8	102,474	7.35	14,393	24.5
	(SE)	84,162.35	0.55	5.42	2.40	19,790.03	1.14	1,641.34	2.53
	N	915	68	71	71	905	68	290	290
5	ESTIMATE	143,315	2.30	14.43	91.8	62,304	6.47	9,933	16.9
	(SE)	25,804.07	0.35	1.67	3.95	12,900.76	0.98	1,381.20	2.20
	N	915	47	49	49	905	47	290	290
6	ESTIMATE	108,449	1.60	13.05	92.7	54,926	6.87	8,311	14.1
	(SE)	27,429.50	0.45	2.66	4.12	15,403.70	1.62	1,269.25	2.05
	N	915	39	41	41	905	39	290	290
STATEWIDE	ESTIMATE	1,022,492	2.36	16.38	93.1	410,300	6.84	62,417	33.7
	(SE)	127,996.47	0.25	1.91	1.43	37,771.43	0.54	2,857.04	1.54
	N	942	299	317	317	924	299	942	942

TABLE 8. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF RACCOON HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	7,309	1.00	9.25	100.0	7,309	9.25	791	10.3
	(SE)	6,012.52	0.22	6.98	0.00	5,323.40	5.66	394.42	4.92
	N	939	4	4	4	939	4	39	39
2	ESTIMATE	27,259	0.53	13.80	80.0	51,950	26.30	1,976	25.6
	(SE)	14,196.17	0.13	6.03	13.33	23,062.39	8.68	621.63	7.08
	N	939	10	10	10	939	10	39	39
3	ESTIMATE	3,556	1.00	1.80	80.0	1,778	1.80	988	12.8
	(SE)	1,601.37	0.47	0.66	20.00	859.50	0.37	440.74	5.42
	N	939	5	5	5	939	5	39	39
4	ESTIMATE	7,506	0.78	3.46	100.0	9,679	4.46	2,173	28.2
	(SE)	2,741.77	0.28	0.76	0.00	3,875.02	1.24	651.62	7.30
	N	939	11	11	11	939	11	39	39
5	ESTIMATE	10,469	1.43	5.89	88.9	7,309	4.11	1,778	23.1
	(SE)	5,842.73	0.46	2.80	11.11	3,374.50	1.40	590.05	6.84
	N	939	9	9	9	939	9	39	39
6	ESTIMATE	3,951	-	-	-	0	-	0	0.0
	(SE)	3,950.54	-	-	-	0.00	-	0.00	0.00
	N	939	-	-	-	939	-	39	39
STATEWIDE	ESTIMATE	64,583	0.62	6.76	88.1	90,376	10.93	8,270	4.5
	(SE)	17,255.22	0.12	1.76	5.06	26,067.96	2.72	1,247.94	0.67
	N	942	42	42	42	942	42	942	942

TABLE 9. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF ALL DUCK HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	93,035	2.03	37.75	91.7	43,955	18.58	2,366	14.0
	(SE)	45,019.37	0.55	16.26	8.33	15,695.60	4.12	678.79	3.76
	N	941	12	12	12	941	12	86	86
2	ESTIMATE	98,751	1.73	19.77	86.4	49,474	11.41	4,337	25.6
	(SE)	28,369.95	0.24	4.67	7.49	13,697.44	2.10	914.13	4.73
	N	941	22	22	22	941	22	86	86
3	ESTIMATE	142,903	2.13	21.55	93.6	61,892	10.13	6,111	36.1
	(SE)	36,462.61	0.26	4.40	4.49	14,544.61	1.59	1,079.79	5.21
	N	941	31	31	31	941	31	86	86
4	ESTIMATE	9,461	1.66	8.00	83.3	5,716	4.83	1,183	7.0
	(SE)	5,110.62	0.26	3.11	16.67	2,952.30	1.68	481.53	2.76
	N	941	6	6	6	941	6	86	86
5	ESTIMATE	36,268	0.81	15.33	75.0	44,941	19.00	2,366	14.0
	(SE)	20,867.26	0.47	7.98	13.06	23,958.44	8.91	678.79	3.76
	N	941	12	12	12	941	12	86	86
6	ESTIMATE	7,490	0.74	4.67	66.7	3,745	6.33	592	3.5
	(SE)	5,182.09	0.22	2.91	33.33	2,371.61	2.03	341.04	1.99
	N	941	3	3	3	941	3	86	86
STATEWIDE	ESTIMATE	428,057	1.69	20.90	87.4	211,469	12.35	17,131	9.2
	(SE)	69,439.67	0.23	3.22	3.58	34,619.55	1.59	1,750.61	0.94
	N	942	87	87	87	942	87	942	942

TABLE 10. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF MALLARD HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

MALLARDS

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
1	ESTIMATE	44,349	1.00	18.67	58.3
	(SE)	25,151.47	0.38	9.59	14.87
	N	941	12	12	12
2	ESTIMATE	55,584	0.89	10.09	81.8
	(SE)	16,651.87	0.12	2.54	8.42
	N	941	22	22	22
3	ESTIMATE	70,762	1.03	10.45	87.1
	(SE)	19,699.55	0.18	2.50	6.12
	N	941	31	31	31
4	ESTIMATE	1,774	0.31	1.50	33.3
	(SE)	1,261.45	0.18	0.96	21.08
	N	941	6	6	6
5	ESTIMATE	13,798	0.31	5.83	50.0
	(SE)	8,584.49	0.19	3.36	15.08
	N	941	12	12	12
6	ESTIMATE	0	0.00	0.00	0.0
	(SE)	0.00	0.00	0.00	0.00
	N	941	3	3	3
STATEWIDE	ESTIMATE	201,624	0.80	9.83	70.1
	(SE)	37,276.15	0.13	1.80	4.94
	N	942	87	87	87

TABLE 11. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF WOOD DUCK HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

WOOD DUCKS

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
1	ESTIMATE	22,076	0.44	8.08	75.0
	(SE)	9,414.00	0.12	3.12	13.06
	N	941	12	12	12
2	ESTIMATE	12,221	0.22	2.55	45.5
	(SE)	5,043.06	0.08	1.02	10.87
	N	941	22	22	22
3	ESTIMATE	25,427	0.36	3.61	54.8
	(SE)	9,522.13	0.13	1.38	9.09
	N	941	31	31	31
4	ESTIMATE	4,139	0.72	3.50	83.3
	(SE)	2,054.52	0.18	1.09	16.67
	N	941	6	6	6
5	ESTIMATE	12,418	0.28	5.25	58.3
	(SE)	5,545.77	0.14	1.88	14.87
	N	941	12	12	12
6	ESTIMATE	6,307	0.74	4.67	66.7
	(SE)	4,131.64	0.22	2.91	33.33
	N	941	3	3	3
STATEWIDE	ESTIMATE	93,330	0.35	4.29	58.6
	(SE)	16,448.83	0.06	0.77	5.31
	N	942	87	87	87

TABLE 12. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF OTHER DUCK HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

OTHER DUCKS

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
1	ESTIMATE	26,610	0.59	11.00	58.3
	(SE)	17,459.27	0.31	6.96	14.87
	N	941	12	12	12
2	ESTIMATE	30,946	0.63	7.14	63.6
	(SE)	9,925.09	0.11	1.77	10.50
	N	941	22	22	22
3	ESTIMATE	46,714	0.74	7.48	61.3
	(SE)	14,201.07	0.14	1.94	8.89
	N	941	31	31	31
4	ESTIMATE	3,548	0.62	3.00	50.0
	(SE)	2,262.84	0.12	1.61	22.36
	N	941	6	6	6
5	ESTIMATE	10,053	0.22	4.25	33.3
	(SE)	8,001.65	0.18	3.29	14.21
	N	941	12	12	12
6	ESTIMATE	1,183	0.00	0.00	0.0
	(SE)	1,182.64	0.00	0.00	0.00
	N	941	3	3	3
	ESTIMATE	133,103	0.55	6.78	54.0
STATEWIDE	(SE)	27,115.53	0.10	1.34	5.37
	N	942	87	87	87

TABLE 13. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF GOOSE HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	1,969	0.23	4.50	50.0	7,876	20.00	394	14.3
	(SE)	1,782.78	0.11	4.50	50.00	6,224.48	10.00	278.31	9.71
	N	942	2	2	2	942	2	14	14
2	ESTIMATE	5,119	1.13	2.25	75.0	1,575	2.00	788	28.6
	(SE)	3,509.09	0.22	0.85	25.00	834.23	0.41	393.17	12.53
	N	942	4	4	4	942	4	14	14
3	ESTIMATE	4,332	0.30	3.00	66.7	12,011	10.17	1,182	42.9
	(SE)	2,061.35	0.13	1.16	21.08	8,544.22	6.49	481.02	13.73
	N	942	6	6	6	942	6	14	14
4	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	942	-	-	-	942	-	14	14
5	ESTIMATE	0	0.00	0.00	0.0	21,659	110.00	197	7.1
	(SE)	0.00	-	-	-	21,658.79	-	196.90	7.14
	N	942	1	1	1	942	1	14	14
6	ESTIMATE	1,378	1.33	4.00	1.0	591	3.00	197	7.1
	(SE)	983.99	-	-	-	590.69	-	196.90	7.14
	N	942	1	1	1	942	1	14	14
	ESTIMATE	14,767	0.18	2.86	64.3	43,711	15.86	2,757	1.5
STATEWIDE	(SE)	4,649.55	0.10	0.76	13.29	24,095.35	7.95	731.62	0.40
	N	942	14	14	14	942	14	942	942

TABLE 14. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF RED FOX HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	940	-	-	-	939	-	4	4
2	ESTIMATE	0	0.00	0.00	0.0	395	2.00	198	25.0
	(SE)	0.00	-	-	-	395.05	-	197.32	25.00
	N	940	1	1	1	939	1	4	4
3	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	940	-	-	-	939	-	4	4
4	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	940	-	-	-	939	-	4	4
5	ESTIMATE	592	0.00	1.50	50.0	21,728	110.00	395	50.0
	(SE)	591.95	-	1.50	50.00	21,727.99	-	278.90	28.87
	N	940	1	2	2	939	1	4	4
6	ESTIMATE	197	0.04	1.00	1.0	4,938	25.00	197	25.0
	(SE)	197.32	-	-	-	4,938.18	-	197.32	25.00
	N	940	1	1	1	939	1	4	4
	ESTIMATE	1,575	0.01	1.33	66.7	27,061	45.67	1,182	0.6
STATEWIDE	(SE)	879.53	0.01	0.56	21.08	22,279.94	32.85	481.02	0.26
	N	942	3	6	6	939	3	942	942

TABLE 15. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF GRAY FOX HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	941	-	-	-	939	-	5	5
2	ESTIMATE	394	0.00	1.00	50.0	395	2.00	395	40.0
	(SE)	394.21	-	1.00	50.00	395.05	-	278.60	24.50
	N	941	1	2	2	939	1	5	5
3	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	941	-	-	-	939	-	5	5
4	ESTIMATE	197	0.05	1.00	1.0	3,951	20.00	198	20.0
	(SE)	197.11	-	-	-	3,950.54	-	197.11	20.00
	N	941	1	1	1	939	1	5	5
5	ESTIMATE	197	0.00	0.50	50.0	21,728	110.00	395	40.0
	(SE)	197.11	-	0.50	50.00	21,727.99	-	278.60	24.50
	N	941	1	2	2	939	1	5	5
6	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	941	-	-	-	939	-	5	5
	ESTIMATE	1,181	0.01	1.00	66.7	26,074	44.00	1,182	0.6
STATEWIDE	(SE)	621.79	0.01	0.37	21.08	22,083.11	33.41	481.02	0.26
	N	942	3	6	6	939	3	942	942

TABLE 16. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF BOBCAT IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	197	1.00	1.00	100.0	198	1.00	198	5.0
	(SE)	197.32	-	-	-	197.53	-	197.32	5.00
	N	940	1	1	1	939	1	20	20
2	ESTIMATE	789	0.30	1.00	75.0	1,975	3.33	790	20.0
	(SE)	482.90	0.23	0.41	25.00	1,279.18	1.20	394.00	9.18
	N	940	3	4	4	939	3	20	20
3	ESTIMATE	987	1.00	1.25	100.0	988	1.25	790	20.0
	(SE)	521.34	0.00	0.25	0.00	521.89	0.25	394.00	9.18
	N	940	4	4	4	939	4	20	20
4	ESTIMATE	1,184	0.15	1.20	100.0	7,704	7.80	987	25.0
	(SE)	557.06	0.07	0.20	0.00	4,477.93	3.25	440.27	9.93
	N	940	5	5	5	939	5	20	20
5	ESTIMATE	1,184	0.05	1.00	50.0	25,284	21.33	1,184	30.0
	(SE)	836.70	0.06	0.63	22.36	21,833.29	17.79	482.04	10.51
	N	940	1	6	6	939	6	20	20
6	ESTIMATE	0	-	-	-	0	-	0	0.0
	(SE)	0.00	-	-	-	0.00	-	0.00	0.00
	N	940	-	-	-	939	-	20	20
STATEWIDE	ESTIMATE	7,285	0.11	1.68	77.3	39,266	9.95	4,332	2.3
	(SE)	3,198.17	0.07	0.66	9.15	22,510.33	5.40	913.17	0.49
	N	942	20	22	22	940	20	942	942

TABLE 17. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF COYOTE HUNTING DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	2,774	1.00	2.80	80.0	3,001	3.75	991	12.5
	(SE)	2,039.26	-	1.83	20.00	2,106.85	2.14	442.15	5.30
	N	936	1	5	5	927	4	40	40
2	ESTIMATE	789	0.20	1.29	85.7	3,001	3.75	1,388	17.5
	(SE)	482.90	0.12	0.47	14.29	1,683.96	1.11	522.60	6.08
	N	940	4	7	7	927	4	40	40
3	ESTIMATE	2,180	0.34	2.75	50.0	6,403	8.00	793	10.0
	(SE)	1,991.28	0.17	2.43	28.87	4,480.44	4.53	395.68	4.80
	N	936	4	4	4	927	4	40	40
4	ESTIMATE	3,765	0.55	1.33	83.3	4,402	2.44	2,378	30.0
	(SE)	1,232.03	0.11	0.26	11.24	1,829.08	0.65	682.40	7.34
	N	936	9	12	12	927	9	40	40
5	ESTIMATE	2,576	0.07	1.44	55.6	32,814	20.50	1,784	22.5
	(SE)	1,467.97	0.06	0.71	17.57	22,931.38	13.22	591.93	6.69
	N	936	8	9	9	927	8	40	40
6	ESTIMATE	2,180	0.04	3.67	100.0	49,621	124.00	595	7.5
	(SE)	1,645.38	<0.01	2.19	0.00	41,143.09	76.00	342.86	4.22
	N	936	2	3	3	927	2	40	40
STATEWIDE	ESTIMATE	18,312	0.11	1.96	78.3	101,224	15.36	9,058	4.9
	(SE)	4,360.03	0.04	0.39	6.15	47,274.73	6.78	1,303.11	0.70
	N	942	33	46	46	929	33	942	942

TABLE 18. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF ARCHERY DEER HUNTING IN MISSSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	7,653	0.08	0.97	55.3	70,157	10.74	7,860	24.5
	(SE)	2,124.91	0.02	0.23	8.17	16,472.14	1.69	1,247.64	3.47
	N	874	31	38	38	858	31	155	155
2	ESTIMATE	4,137	0.06	0.83	58.3	50,353	11.38	4,964	15.5
	(SE)	1,198.53	0.01	0.18	10.28	13,498.79	1.86	999.79	2.92
	N	874	21	24	24	858	21	155	155
3	ESTIMATE	2,275	0.04	0.61	33.3	53,092	14.00	3,723	11.6
	(SE)	1,072.55	0.01	0.26	11.43	17,107.66	3.20	868.90	2.58
	N	874	18	18	18	858	18	155	155
4	ESTIMATE	6,412	0.05	0.84	48.7	106,816	15.36	7,653	23.9
	(SE)	2,068.40	0.01	0.24	8.33	30,619.27	3.59	1,231.85	3.44
	N	874	33	37	37	858	33	155	155
5	ESTIMATE	2,896	0.03	0.58	41.7	101,338	20.91	4,964	15.5
	(SE)	1,050.65	0.01	0.18	10.28	32,041.86	5.13	999.79	2.92
	N	874	23	24	24	858	23	155	155
6	ESTIMATE	1,448	0.06	0.50	21.4	14,326	5.23	2,896	9.0
	(SE)	900.71	0.05	0.29	11.38	5,442.73	1.42	768.08	2.31
	N	874	13	14	14	858	13	155	155
STATEWIDE	ESTIMATE	30,631	0.05	0.85	50.0	404,947	13.20	35,871	19.8
	(SE)	3,879.78	0.01	0.09	3.76	50,628.58	1.32	2,408.48	1.33
	N	897	147	178	178	866	147	897	897

TABLE 19. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF ARCHERY BUCK AND DOE HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

		BUCKS				DOES			
DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
1	ESTIMATE	2,482	0.03	0.32	21.1	5,171	0.05	0.66	50.0
	(SE)	967.01	0.01	0.11	6.70	1,345.69	0.01	0.14	8.22
	N	874	31	38	38	874	31	38	38
2	ESTIMATE	827	0.01	0.17	16.7	3,309	0.05	0.67	45.8
	(SE)	412.94	0.01	0.08	7.77	1,089.30	0.02	0.18	10.39
	N	874	21	24	24	874	21	24	24
3	ESTIMATE	414	0.01	0.11	11.1	1,861	0.04	0.50	27.8
	(SE)	292.33	<0.01	0.08	7.62	899.84	0.01	0.22	10.86
	N	874	18	18	18	874	18	18	18
4	ESTIMATE	1,861	0.02	0.24	18.9	4,550	0.03	0.60	40.5
	(SE)	799.01	<0.01	0.10	6.53	1,425.45	0.01	0.16	8.18
	N	874	33	37	37	874	33	37	37
5	ESTIMATE	827	0.01	0.17	16.7	2,068	0.02	0.42	33.3
	(SE)	412.94	<0.01	0.08	7.77	771.14	0.01	0.13	9.83
	N	874	23	24	24	874	23	24	24
6	ESTIMATE	621	0.02	0.21	14.3	827	0.04	0.29	21.4
	(SE)	462.26	0.02	0.16	9.71	506.13	0.04	0.16	11.38
	N	874	13	14	14	874	13	14	14
STATEWIDE	ESTIMATE	9,472	0.02	0.26	19.7	21,160	0.04	0.59	41.0
	(SE)	1,853.91	<0.01	0.05	2.99	2,740.36	0.01	0.07	3.70
	N	897	147	178	178	897	147	178	178

TABLE 20. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF PRIMATIVE WEAPON DEER HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	7,714	0.07	0.79	48.9	66,721	7.83	9,800	21.3
	(SE)	1,835.59	0.02	0.15	7.37	14,618.63	1.23	1,390.89	2.76
	N	867	40	47	47	848	40	221	221
2	ESTIMATE	6,046	0.10	0.83	54.3	52,865	7.75	7,298	15.8
	(SE)	1,561.55	0.02	0.17	8.54	12,192.16	1.20	1,209.02	2.46
	N	867	32	35	35	848	32	221	221
3	ESTIMATE	6,046	0.09	0.88	54.6	62,031	9.70	6,881	14.9
	(SE)	1,616.33	0.02	0.18	8.80	17,384.47	2.12	1,175.37	2.40
	N	867	30	33	33	848	30	221	221
4	ESTIMATE	8,757	0.10	0.79	58.5	83,561	8.00	11,051	24.0
	(SE)	1,668.47	0.02	0.11	6.83	17,736.35	1.30	1,471.59	2.88
	N	867	49	53	53	848	49	221	221
5	ESTIMATE	5,421	0.08	0.84	51.6	65,442	10.59	6,464	14.0
	(SE)	1,550.23	0.03	0.19	9.12	25,600.25	3.73	1,140.57	2.34
	N	867	29	31	31	848	29	221	221
6	ESTIMATE	1,668	0.04	0.36	31.8	46,044	9.82	4,587	10.0
	(SE)	657.26	0.01	0.12	10.16	16,877.03	3.01	966.00	2.02
	N	867	22	22	22	848	22	221	221
STATEWIDE	ESTIMATE	42,118	0.08	0.83	55.0	382,598	8.57	50,582	28.0
	(SE)	3,869.61	0.01	0.06	3.15	41,777.82	0.79	2,710.95	1.50
	N	897	212	251	251	858	212	897	897

TABLE 21. EXPANDED STATEWIDE AND DISTRICT OF PRIMATIVE WEAPON BUCK AND DOE HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

		BUCKS				DOES			
DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
1	ESTIMATE	2,710	0.02	0.28	25.5	5,004	0.05	0.51	36.2
	(SE)	802.70	0.01	0.07	6.43	1,308.40	0.02	0.11	7.08
	N	867	40	47	47	867	40	47	47
2	ESTIMATE	2,293	0.04	0.31	31.4	3,753	0.06	0.51	34.3
	(SE)	687.49	0.01	0.08	7.96	1,209.72	0.02	0.14	8.14
	N	867	32	35	35	867	32	35	35
3	ESTIMATE	2,293	0.03	0.33	27.3	3,753	0.05	0.55	36.4
	(SE)	804.20	0.01	0.10	7.87	1,173.19	0.02	0.15	8.50
	N	867	30	33	33	867	30	33	33
4	ESTIMATE	2,919	0.04	0.26	26.4	5,838	0.06	0.53	47.2
	(SE)	774.24	0.01	0.06	6.11	1,200.14	0.01	0.08	6.92
	N	867	49	53	53	867	49	53	53
5	ESTIMATE	1,877	0.03	0.29	25.8	3,544	0.05	0.55	38.7
	(SE)	688.95	0.01	0.10	7.99	1,077.28	0.02	0.14	8.89
	N	867	29	31	31	867	29	31	31
6	ESTIMATE	1,043	0.02	0.23	22.7	626	0.01	0.14	13.6
	(SE)	465.13	0.01	0.09	9.15	360.71	0.01	0.08	7.49
	N	867	22	22	22	867	22	22	22
	ESTIMATE	15,920	0.03	0.32	28.7	26,198	0.05	0.52	38.7
STATEWIDE	(SE)	1,870.34	<0.01	0.03	2.86	2,802.35	0.01	0.05	3.08
	N	897	212	251	251	897	212	251	251

TABLE 22. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF REGULAR GUN DEER HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	43,071	0.09	1.56	68.6	381,830	15.19	27,673	24.1
	(SE)	5,097.09	0.01	0.13	4.19	45,111.15	1.15	2,288.38	1.89
	N	810	104	124	124	748	104	514	514
2	ESTIMATE	37,046	0.10	1.68	71.7	321,414	15.65	22,094	19.3
	(SE)	4,912.60	0.01	0.16	4.55	42,478.30	1.32	2,081.65	1.74
	N	810	85	99	99	748	85	514	514
3	ESTIMATE	14,506	0.07	1.23	56.6	170,615	15.69	11,828	10.3
	(SE)	3,092.46	0.01	0.21	6.87	32,290.48	1.94	1,571.60	1.34
	N	810	45	53	53	748	45	514	514
4	ESTIMATE	39,724	0.07	1.47	75.6	521,029	19.78	26,557	23.2
	(SE)	4,459.86	0.01	0.11	3.95	62,762.92	1.62	2,249.92	1.86
	N	810	109	119	119	748	109	514	514
5	ESTIMATE	23,879	0.07	1.45	68.5	315,614	19.79	16,292	14.2
	(SE)	3,962.42	0.01	0.18	5.48	49,577.15	2.08	1,819.91	0.02
	N	810	66	73	73	748	66	514	514
6	ESTIMATE	11,382	0.06	1.11	52.2	166,507	16.02	10,266	9.0
	(SE)	2,732.99	0.02	0.22	7.45	29,491.24	1.57	1,470.89	1.26
	N	810	43	46	46	748	43	514	514
STATEWIDE	ESTIMATE	182,982	0.08	1.50	69.9	1,893,840	16.94	121,115	67.0
	(SE)	8,256.83	<0.01	0.06	1.87	88,704.63	0.63	2,839.56	1.57
	N	897	480	601	601	776	480	897	897

TABLE 23. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF REGULAR GUN BUCK AND DOE HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

		BUCKS				DOES			
DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS
1	ESTIMATE	21,424	0.05	0.77	51.6	21,647	0.05	0.78	49.2
	(SE)	2,830.09	0.01	0.08	4.51	2,923.36	0.01	0.08	4.51
	N	810	104	124	124	810	104	124	124
2	ESTIMATE	18,300	0.05	0.83	52.5	18,746	0.05	0.85	52.5
	(SE)	2,676.85	0.01	0.09	5.04	2,728.42	0.01	0.10	5.04
	N	810	85	99	99	810	85	99	99
3	ESTIMATE	8,257	0.04	0.70	43.4	6,249	0.07	0.53	30.2
	(SE)	1,832.05	0.01	0.13	6.87	1,828.26	0.01	0.14	6.37
	N	810	45	53	53	810	45	53	53
4	ESTIMATE	24,102	0.05	0.89	57.1	15,622	0.03	0.58	39.5
	(SE)	3,058.54	0.01	0.09	4.56	2,404.55	<0.01	0.08	4.50
	N	810	109	119	119	810	109	119	119
5	ESTIMATE	13,167	0.04	0.81	53.4	10,712	0.03	0.64	39.7
	(SE)	2,306.67	0.01	0.11	5.88	2,132.01	0.01	0.11	5.77
	N	810	66	73	73	810	66	73	73
6	ESTIMATE	7,141	0.04	0.70	39.1	4,240	0.03	0.41	30.4
	(SE)	2,031.16	0.01	0.17	7.28	1,234.34	0.01	0.11	6.86
	N	810	43	46	46	810	43	46	46
STATEWIDE	ESTIMATE	100,358	0.04	0.83	52.8	82,624	0.04	0.68	43.1
	(SE)	5,279.27	<0.01	0.04	2.04	4,891.85	<0.01	0.04	2.02
	N	897	480	601	601	897	480	601	601

TABLE 24. EXPANDED STATEWIDE AD DISTRICT SUMMARIES OF SPRING TURKEY HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	4,299	0.06	0.75	50.0	51,942	10.08	5,733	18.1
	(SE)	1,270.96	0.02	0.18	9.62	12,805.83	1.52	1,066.55	3.10
	N	883	25	28	28	877	25	155	155
2	ESTIMATE	4,094	0.09	0.91	54.6	43,697	10.10	4,504	14.2
	(SE)	1,320.29	0.02	0.23	10.87	13,148.60	2.17	948.71	2.81
	N	883	21	22	22	877	21	155	155
3	ESTIMATE	2,252	0.08	0.61	38.9	27,208	7.33	3,685	11.6
	(SE)	889.62	0.03	0.20	11.82	9,616.24	2.00	860.13	2.58
	N	883	18	18	18	877	18	155	155
4	ESTIMATE	8,189	0.07	0.83	50.0	108,418	11.44	9,827	31.0
	(SE)	1,834.23	0.01	0.15	7.29	20,512.38	1.42	1,380.01	3.73
	N	883	46	48	48	877	46	155	155
5	ESTIMATE	4,299	0.08	0.81	50.0	56,064	10.46	5,323	16.8
	(SE)	1,303.56	0.01	0.19	10.00	14,646.52	1.87	1,028.96	3.01
	N	883	26	26	26	877	26	155	155
6	ESTIMATE	1,843	0.10	0.69	46.2	19,169	7.15	2,662	8.4
	(SE)	790.88	0.03	0.24	14.39	7,306.48	1.96	733.08	2.23
	N	883	13	13	13	877	13	155	155
STATEWIDE	ESTIMATE	28,818	0.07	0.85	50.9	313,572	9.94	34,058	18.8
	(SE)	3,289.81	0.01	0.08	3.86	32,177.56	0.72	2,361.44	1.31
	N	897	154	169	169	882	154	897	897

TABLE 25. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF FALL TURKEY HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT (A)	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PECENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
3	ESTIMATE	406	0.05	0.40	40.0	3,863	4.75	1,015	41.7
	(SE)	286.75	0.08	0.25	24.50	3,089.45	3.43	452.63	14.87
	N	891	4	5	5	889	4	12	12
5	ESTIMATE	203	0.06	0.25	25.0	3,457	4.25	812	33.3
	(SE)	202.88	0.03	0.25	25.00	2,216.34	1.97	405.07	14.21
	N	891	4	4	4	889	4	12	12
STATEWIDE	ESTIMATE	3,224	0.08	0.89	61.1	8,133	4.00	3,628	2.0
	(SE)	1,061.50	0.05	0.21	11.82	3,850.52	1.49	846.83	0.47
	N	897	10	18	18	889	10	897	897

(A) FALL TURKEY HUNTING WAS LEGAL IN DISTRICTS 2, 3, AND 5.
(B) CALCULATED AS A PERCENT OF BIG GAME LICENSE HOLDERS ONLY.

TABLE 26. EXPANDED STATEWIDE SUMMARIES OF ALL DEER, BUCK, DOE, AND TURKEY (FALL '04 AND SPRING '05) HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON

SPECIES	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT OF TOTAL LICENSEES (A)
DEER	ESTIMATE	255,731	0.07	1.97	72.1	2,759,020	22.76	129,780	71.8
	(SE)	11,494.43	<0.01	0.08	1.77	150,372.17	1.10	2,717.51	1.50
	N	897	515	644	644	768	515	897	897
BUCK	ESTIMATE	125,750	0.04	0.97	54.2				
	(SE)	6,350.40	<0.01	0.04	1.97				
	N	897	515	644	644				
DOE	ESTIMATE	129,982	0.04	1.00	50.6				
	(SE)	7,284.56	<0.01	0.05	1.97				
	N	897	515	644	644				
TURKEY	ESTIMATE	32,042	0.07	0.89	51.4	323,974	9.94	36,073	20.0
	(SE)	3,508.76	0.01	0.08	3.75	32,752.90	0.71	2,413.55	1.34
	N	897	158	179	179	876	158	897	897

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

TABLE 27. EXPANDED STATEWIDE AND DISTRICT SUMMARIES OF HOG HUNTING IN MISSISSIPPI DURING THE 2004-05 HUNTING SEASON.

DISTRICT	STATISTIC	TOTAL HARVEST	AVERAGE DAILY KILL	AVERAGE SEASONAL HARVEST	PERCENT SUCCESSFUL HUNTERS	TOTAL MANDAYS	AVERAGE SEASONAL DAYS HUNTING	TOTAL HUNTERS	PERCENT HUNTERS PER DISTRICT
1	ESTIMATE	0	0.00	0.00	0.0	7,134	7.20	990	14.3
	(SE)	0.00	0.00	0.00	0.00	4,142.84	2.99	441.68	6.00
	N	937	5	5	5	936	5	35	35
2	ESTIMATE	198	0.06	0.33	33.3	3,369	5.67	594	8.6
	(SE)	197.95	0.04	0.33	33.33	2,249.17	2.33	342.49	4.80
	N	937	3	3	3	936	3	35	35
3	ESTIMATE	792	0.40	1.33	100.0	1,982	3.33	594	8.6
	(SE)	484.44	0.18	0.33	0.00	1,609.42	2.33	342.49	4.80
	N	937	3	3	3	936	3	35	35
4	ESTIMATE	2,375	0.08	1.71	57.1	28,337	20.43	1,386	20.0
	(SE)	1,506.34	0.09	0.94	20.20	23,873.71	16.62	522.04	6.86
	N	937	7	7	7	936	7	35	35
5	ESTIMATE	3,761	0.09	2.11	66.7	36,660	23.13	1,782	25.7
	(SE)	2,157.02	0.07	1.05	16.67	23,316.67	13..09	591.30	7.50
	N	937	8	9	9	936	8	35	35
6	ESTIMATE	2,177	0.08	1.38	37.5	26,355	16.63	1,584	22.9
	(SE)	1,440.10	0.06	0.82	18.30	13,238.04	6.36	557.79	7.20
	N	937	8	8	8	936	8	35	35
STATEWIDE	ESTIMATE	11,420	0.09	1.45	55.0	103,836	15.41	7,876	4.2
	(SE)	3,166.96	0.04	0.34	7.97	36,128.35	4.76	1,219.21	0.66
	N	942	34	40	40	936	34	942	942

Summary of Responses to Opinion Questions for 2004-2005

Table 28. Percent of respondents who hunted in Mississippi during the 2004-2005 hunting season (Q1)

Response	Frequency	Percent
YES	1145	97.4
NO	31	2.6
TOTAL	1176	100.0

n missing = 19

Table 29. Percent of respondents by how many total days they hunted (Q2). Missing values were treated as zeroes.

Response	Frequency	Percent
0		
1-5	295	18.0
6-10	189	11.5*
11-15	157	9.6
16-20	194	11.8
21-25	125	7.6
26-30	195	11.9
31-35	64	3.9
>35	421	25.7
TOTAL	1228	100.0

Mean days hunting elsewhere = 28.4 days

Table 30. Percent of respondents by how many days they hunted in Mississippi (Q2a). Missing values were treated as zeroes.

Response	Frequency	Percent
0		
1-5	211	18.8
6-10	134	11.9
11-15	110	9.8
16-20	138	12.3
21-25	91	8.1
26-30	151	13.4
31-35	20	1.8
>35	269	23.9
TOTAL	1228	100.0

Mean days hunting in Mississippi = 27.1 days

Table 31. Percent of respondents by how many days they hunted elsewhere (Q2b). Missing values were treated as zeroes.

Response	Frequency	Percent
0		
1-5	481	93.3
6-10	21	4.0
11-15	4	0.8
16-20	2	0.4
21-25	1	0.3
26-30	3	0.5
31-35	1	0.1
>35	3	0.6
TOTAL	1228	100.0

Mean days hunting elsewhere = 1.3 days

Table 32. Percent of respondents by how many years they have been hunting (Q3).

Years Hunted Category	Frequency	Percent
0-5	54	4.6
6 – 10	68	5.7
11 – 15	102	8.7
16 – 20	140	11.9
21 – 25	114	9.6
26 – 30	177	15.0
31 – 35	153	13.0
36 – 40	146	12.4
41 – 45	100	8.5
46 – 50	81	6.9
51 – 55	33	2.8
56 – 60	9	0.8
>65	1	0.1
TOTAL	1178	100.0

n missing = 17
Mean years of experience = 29

Table 33. Percent of respondents who are a member of a national hunting or conservation organization (Q4a)

Response	Frequency	Percent
YES	259	21.9
NO	924	78.1
TOTAL	1183	100.0

n missing = 16

33a. If yes, [See Table 33] number of organizations they belong to (Q4b)

Number of Organizations	Frequency	Percent
1	144	60.7
2	73	30.9
3	15	6.3
4	2	1.0
5	1	0.5
6	2	0.6
7	0	0.0
8	0	0.0
9	0	0.0
TOTAL	237	100.0

n missing = 11
Mean number of hunting or conservation organizations = 2

Table 34. Percent of respondents who subscribe to any hunting magazines (Q5)

Response	Frequency	Percent
YES	438	36.9
NO	748	63.1
TOTAL	1186	100.0

n missing = 42

34a. If yes, [See Table 34] number of magazines they subscribe to (Q5a)

Number of Magazines	Frequency	Percent
1	154	39.1
2	129	32.7
3	67	17.0
4	27	6.9
5	9	2.3
6	5	1.3
7	1	0.25
8	1	0.25
9	1	0.25
TOTAL	394	100.0

n missing = 44
Mean number of hunting magazines subscribed to = 2.1

Table 35. Percent of respondents by the age they had their first hunting experience (Q6)

Age Category	Frequency	Percent
1 – 5	124	10.5
6 – 10	547	46.3
11 – 15	354	30.0
16 – 20	98	8.3
21 – 25	15	1.3
26 – 30	17	1.4
31 – 35	13	1.1
36 – 40	5	0.4
41 – 45	4	0.3
>46	4	0.4
TOTAL	1181	100.0

n missing = 16
Mean age of first experience = 11

Table 36. Percent of respondents by who introduced them hunting (Q7a)

Introduced them to hunting	Frequency	Percent
Grandfather	126	10.5
Grandmother	0	0.0
Father	742	61.9
Mother	6	0.5
Brother	40	3.3
Sister	0	0.0
Son	1	0.1
Daughter	0	0.0
Uncle	76	6.3
Aunt	6	0.5
Cousin	19	1.6
Friend	105	8.8
Business Associate	3	0.2
Client	0	0.0
Youth Hunting Event Instructor	0	0.0
Introduced Myself	25	2.1
Other	50	4.2
TOTAL	1199	100.0

n missing = 9

Table 36a. Percent of respondents by who introduced them to hunting (fill in) (Q7b)

Introduced them to hunting	Frequency	Percent
Spouse	9	16.7
Husband	16	32.0
Wife	0	0.0
Father-in-law	4	7.7
Son-in-law	0	0.0
Nephew	0	0.0
Brother-in-law	7	14.7
Great Grandfather	1	2.3
Boyfriend	2	4.9
Stepfather	6	12.1
Grandson	1	2.3
Granddaughter	0	0.0
Fiancé	2	2.5
Landowner	2	2.5
Girlfriend	0	0.0
In-laws	0	0.0
Pastor	0	0.0
Ex-husband	1	2.3
Club	0	0.0
Grandchildren	0	0.0
TOTAL	51	100.0

n missing = 9

Table 37. Percent of respondents by who they hunt with most often (Q8)

Hunt with most often	Frequency	Percent
Grandfather	14	1.2
Grandmother	0	0.0
Father	158	13.2
Mother	1	0.1
Brother	72	6.0
Sister	0	0.0
Son	158	13.1
Daughter	19	1.6
Uncle	42	3.5
Aunt	3	0.2
Cousin	31	2.6
Friend	411	34.3
Business Associate	6	0.4
Client	0	0.0
Introduced Myself	151	12.6
Other	133	11.1
TOTAL	1199	100.0

n missing = 9

Table 38. Percent of respondents by if they or someone in their household owns an all terrain vehicle that is used for hunting (Q9)

Response	Frequency	Percent
YES	845	71.1
NO	343	28.9
TOTAL	1188	100.0

n missing = 40

Table 39. Percent of respondents by their most favorite animal to hunt in Mississippi (Q10a)

Favorite animal to hunt	Frequency	Percent
Dove	42	3.5
Quail	17	1.5
Rabbit	33	2.8
Squirrel	56	4.6
Raccoon	7	0.6
Ducks	67	5.6
Red fox	1	0.1
Bobcat	3	0.2
Coyote	1	0.1
Deer	881	73.6
Turkey	89	7.4
Hog	1	0.1
Birds	1	0.01
TOTAL	1198	100.0

n missing = 30

Table 40. Percent of respondents by their second most favorite animal to hunt in Mississippi (Q10b)

Second favorite animal to hunt	Frequency	Percent
Dove	140	13.2
Quail	15	1.4
Woodcock/Snipe	1	0.01
Rabbit	134	12.6
Squirrel	242	22.7
Raccoon	7	0.7
Ducks	70	6.6
Geese	3	0.2
Bobcat	2	0.2
Coyote	6	0.6
Deer	206	19.3
Turkey	205	19.2
Hog	28	2.6
Small Game	1	0.1
Frog	3	0.2
Birds	2	0.2
Fish	1	0.01
Crow	1	0.01
TOTAL	1066	100.0

n missing = 162

Table 41. Percent of respondents by their third most favorite animal to hunt in Mississippi (Q10c)

Third favorite animal to hunt	Frequency	Percent
Dove	202	22.6
Quail	27	3.0
Rabbit	169	19.0
Squirrel	18	20.2
Raccoon	21	2.4
Ducks	68	7.6
Geese	53	0.3
Bobcat	3	0.4
Coyote	1	0.12
Deer	65	7.3
Turkey	116	12.9
Hog	19	2.1
Small game	6	0.7
Frog	3	0.4
Armadillo	1	0.1
Snakes	1	0.1
Beaver	1	0.1
Predator	1	0.1
Birds	1	0.1
Fish	2	0.3
Varmint	1	0.1
TOTAL	892	100.0

n missing = 336

Table 42. Percent of respondents by if they want to legalize white-tailed deer hunting over bait for future hunting seasons in Mississippi (Q11)

Response	Frequency	Percent
YES	648	54.9
NO	532	45.1
TOTAL	1180	100.0

n missing = 48

SMALL GAME, ALL GAME, AND SPORTSMAN LICENSE WILLINGNESS TO PAY FIGURES LOCATED IN APPENDIX C

Table 43. Percent of respondents by the extent they agree or disagree with statements about various attitudes toward wildlife; ranked by mean score (Q16)

It is important to me personally…	n	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean[a]
To hunt game animals for recreation	1189	5.9	5.2	8.6	33.4	46.9	4
To know that wildlife exist in nature	1177	0.6	1.3	3.8	28.1	66.2	5
That wildlife are included in educational materials as the subject for learning more about nature	1190	0.4	1.0	5.4	41.6	51.3	4
To trap furbearing animals for sale of fur or pelts	1183	16.3	15.3	42.4	17.6	8.4	3
That I consider the presence of wildlife as a sign of the quality of the natural environment	1189	0.7	0.6	3.5	37.6	57.6	5
That game animals are managed for an annual harvest for human use without harming the future of the wildlife population	1195	0.9	1.3	4.2	29.4	64.2	5
That I tolerate most levels of property damage by wildlife	1197	2.9	11.1	20.9	46.7	18.4	4
That local economies benefit from the sale of equipment, supplies, or services related to wildlife recreation	1183	1.2	3.3	14.1	43.5	37.9	4
To talk about wildlife with family and friends	1191	0.3	0.4	6.2	45.1	48.0	4
To hunt game animals for food	1196	1.1	2.5	8.7	34.0	53.7	4
That I tolerate the ordinary risk of wildlife transmitting diseases to humans or domestic animals	1183	8.2	13.1	26.7	39.6	12.4	3
To observe or photograph wildlife	1188	1.5	2.1	19.5	44.4	32.5	4
To express opinions about wildlife and their management to public officials or to officials of private conservation organizations	1189	0.3	2.5	21.8	43.0	32.4	4
That I appreciate the role that wildlife plays in the natural environment	1188	0.5	0.3	4.2	38.2	56.8	5
That I understand more about the behavior of wildlife	1191	0.5	0.3	9.4	46.7	43.1	4
To see wildlife in books, movies, paintings, or photographs	1190	0.5	1.1	13.5	43.6	41.3	4
That I tolerate most wildlife nuisance problems	1196	2.8	11.1	21.5	46.2	18.4	4

n missing = respondents-n
Mean [a] based on scale where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

Table 44. Percent of respondents by the importance of statements about motivations for hunting; ranked by mean score (Q17)

Statement	n	Not at all Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Mean[a]
To gain a sense of self-confidence	1190	16.2	13.2	26.7	27.8	16.1	3
To be with individuals that have values similar to mine	1188	3.0	4.4	14.9	45.2	32.5	4
To compare my hunting equipment with other hunters	1184	49.4	17.2	18.5	10.0	4.9	2
To be with people that enjoy hunting as much as I do	1176	2.2	3.9	12.6	34.4	46.8	4
To test the extent to which I can hunt	1188	13.4	13.0	27.6	26.2	19.8	3
To become better at hunting	1186	3.3	5.1	18.0	36.0	37.6	4
To get my family together for a while	1185	5.5	7.2	14.6	34.0	38.7	4
To be close to nature	1190	1.2	2.4	12.4	34.9	49.1	4
To develop my hunting skills and abilities	1193	2.0	6.4	20.7	34.7	36.2	4
To bring my family closer together	1183	5.7	7.1	14.4	32.2	40.6	4
To be challenged	1192	7.0	8.6	19.7	33.6	31.1	4
To bag an animal	1185	20.1	19.6	26.8	18.5	15.0	3
To obtain a feeling of harmony with nature	1191	5.2	7.9	21.1	36.0	29.8	4
To test my hunting equipment	1185	21.7	21.2	26.0	17.3	13.8	3
To do something with my family	1192	5.8	7.9	16.0	34.8	35.5	4
To be with my friends	1193	3.7	7.0	16.4	37.0	35.9	4
To seek peace in the outdoors	1191	2.8	3.9	14.5	32.0	46.8	4
To discuss my hunting equipment with other hunters	1186	30.4	23.1	21.3	15.0	10.2	3
To become more acquainted with wildlife	1191	3.3	6.4	20.7	40.2	29.4	4

To become more acquainted with the natural environment	1187	2.5	6.4	20.0	40.7	30.4	4
To hunt with my companions	1194	7.0	7.4	18.1	39.0	28.5	4
To develop a sense of self pride	1190	15.2	13.1	24.5	26.4	20.8	3
To enjoy the smells and sounds of nature	1193	2.8	3.1	13.9	36.9	43.3	4
To bag a specific animal, such as a trophy	1188	17.4	16.6	24.6	20.9	20.5	3
To be with members of my hunting club/organization	1188	24.8	11.7	22.7	23.9	16.9	3

n missing = respondents-n
Mean [a] based on scale where 1 = Not at all Important, 2 = Slightly Important, 3 = Moderately Important, 4 = Very Important, 5 = Extremely Important.

DOVE SEASON AND WILLINGNESS TO PAY (Q18-Q26) LOCATED IN APPENDIX D

Table 45. Percent of respondents by the extent they support or oppose various squirrel hunting regulations (Q27 and Q28)

Statement	n	Strongly Oppose	Oppose	Neutral	Support	Strongly Support	Mean[a]
Please indicate whether you support or oppose removing squirrel zones altogether and having a statewide squirrel season that starts October 1st.	947	8.5	9.4	34.8	20.7	26.6	3.4
Please indicate whether you would support or oppose establishing a late Spring or early Summer squirrel hunting season in Mississippi.	948	17.7	18.1	34.7	17.3	12.2	2.9

n missing = respondents-n
Mean [a] based on scale where 1 = strongly oppose, 2 = oppose, 3 = neutral, 4 = support, 5 = strongly support

Table 46. Percent of respondents by how they rated hunting compared to their other outdoor recreation activities (such as fishing, camping, golfing, etc.) (Q30)

Response	Frequency	Percent
Most important outdoor activity	722	60.3
Second most important outdoor activity	320	26.7
Third most important outdoor activity	113	9.4
None of the above	43	3.6
TOTAL	1198	100.00

n missing = 10

Table 47. Percent of respondents by their age category (Q31)

Age Category	Frequency	Percent
18-20	37	3.0
21-25	85	6.9
26-30	96	7.8
31-35	115	9.4
36-40	162	13.2
41-45	192	15.6
46-50	181	14.7
51-55	149	12.1*
56-60	125	10.2
61-65	72	5.9
66-70	12	1.0
>70	2	0.2
TOTAL	1228	100.0

n missing = 0
Mean age of hunter = 43.2

Table 48. Percent of respondents by their gender category (Q32)

Gender Category	Frequency	Percent
MALE	1140	93.8
FEMALE	75	6.2
TOTAL	1215	100.0

n missing = 5

Table 49. Percent of respondents by their county of residence (Q33)

County	Frequency	Percent
ADAMS	13	1.1
ALCORN	18	1.5
AMITE	8	0.7
ATTALA	2	0.3
BENTON	5	0.4
BOLIVAR	14	1.2
CALHOUN	11	0.9
CARROLL	12	1.0
CHICKASAW	11	0.9
CHOCTAW	6	0.5
CLAIBORNE	5	0.4
CLARKE	14	1.2
CLAY	5	0.4
COAHOMA	6	0.5
COPIAH	14	1.2
COVINGTON	12	1.0
DESOTO	54	4.6
FORREST	19	1.6
FRANKLIN	11	0.9
GEORGE	4	0.3
GREENE	9	0.8
GRENADA	14	1.2
HANCOCK	11	0.9

HARRISON	33	2.8
HINDS	43	3.6
HOLMES	12	1.0
HUMPHREYS	6	0.5
ISSAQUENA	2	0.2
ITAWAMBA	19	1.6
JACKSON	37	3.1
JASPER	14	1.2
JEFFERSON	2	0.2
JEFFERSON DAVIS	4	0.3
JONES	32	2.8
KEMPER	2	0.2
LAFAYETTE	11	0.9
LAMAR	30	2.5
LAWRENCE	24	2.0
LEAKE	4	0.3
LEE	13	1.1
LEFLORE	44	3.7
LINCOLN	13	1.1
LOWNDES	19	1.6
MADISON	30	2.5
MARION	33	2.8
MARSHALL	11	0.9
MONROE	14	1.2
MONTGOMERY	25	2.1
NESHOBA	5	0.4
NEWTON	17	1.4
NOXUBEE	8	0.7
OKTIBBEHA	6	0.5
PANOLA	18	1.5
PEARL RIVER	19	1.6
PERRY	13	1.1
PIKE	7	0.6
PONTOTOC	8	0.7
PRENTISS	20	1.7

QUITMAN	14	1.2
RANKIN	2	0.2
SCOTT	63	5.3
SHARKEY	14	1.2
SIMPSON	4	0.3
SMITH	14	1.2
STONE	18	1.5
SUNFLOWER	5	0.4
TALLAHATCHIE	8	0.7
TATE	1	0.1
TIPPAH	15	1.3
TISHOMINGO	14	1.2
TUNICA	8	0.7
UNION	5	0.4
WALTHALL	17	1.4
WARREN	6	0.5
WASHINGTON	31	2.6
WAYNE	18	1.5
WEBSTER	15	1.3
WILKINSON	7	0.6
WINSTON	12	1.0
YALOBUSHA	5	0.4
YAZOO	13	1.1
TOTAL	1185	100.0

n missing = 43

Table 50. Percent of respondents by their approximate annual household income category before taxes (Q34)

Income Category	Frequency	Percent
Under 10,000	44	3.9
10,000-19,000	54	4.8
20,000-29,000	100	8.9
30,000-39,000	145	12.9
40,000-49,000	140	12.4
50,000-59,000	126	11.2
60,000-69,000	109	9.6
70,000-79,000	100	8.9
80,000-89,000	77	6.8
90,000-99,000	57	5.1
100,000 and above	175	15.5
TOTAL	1127	100.0

n missing = 38

Table 51. Percent of respondents by their highest completed level of education (Q35)

Education Category	Frequency	Percent
Elementary	20	1.7
High School	474	39.8
College	595	49.9
Graduate School	103	8.6
TOTAL	1192	100.0

n missing = 16

Table 52. Percent of respondents by their Spanish/Hispanic origin (Q36)

Response	Frequency	Percent
No, not Spanish/Hispanic	1063	98.1
Yes, Mexican, American, Chicano	6	0.5
Yes, other Spanish/Hispanic group	15	1.4
TOTAL	1084	100.0

n missing = 56

Table 52a. Respondents' specifications [See Table 54] of their Other Spanish/Hispanic origin (Q36)

Response	Frequency	Percent
Hispanic	1	33.0
Puerto Rican	1	33.5
½ Hispanic/ ½ Anglo	2	33.5
TOTAL	4	100.0

n missing = 5

Table 53. Percent of respondents by their race (Q37)

Race Category	Frequency	Percent
WHITE OR ANGLO	1137	93.8
BLACK OR AFRICAN AMERICAN	56	4.6
NATIVE AMERICAN OR ALASKAN NATIVE	10	0.8
ASIAN OR PACIFIC ISLANDER	0	0.0
OTHER	10	0.8
TOTAL	1213	100.0

n missing = 5

Table 53a. If other race [See Table 55] respondents' specification of their race (Q37)

Response	Frequency	Percent
Hispanic	1	16.1
White/Apache Indian	1	16.1
Italian	0	1.0
¼ Native American, ¾ White	1	17.3
White/Native American	2	17.3
White/Black	1	16.1
White/Asian or Pacific Islander	1	16.1
TOTAL	7	100.0

n missing = 502

Appendix A

Questionnaire: 2005 Survey of Mississippi Resident Hunters

2005 Survey of Mississippi Resident Hunters

Conducted for the
Mississippi Department of Wildlife, Fisheries & Parks
by the
Human Dimensions & Conservation Law Enforcement Laboratory
Forest & Wildlife Research Center
Mississippi State University

2005 SURVEY OF MISSISSIPPI HUNTERS …… PAGE 1

In the following questions, please tell us about your hunting activity and experience. The information you provide will remain strictly confidential and you will not be identified with your answers.

Questions #1-10 deal with general questions about your hunting experience and preferences.

1. Did you hunt in Mississippi during the 2004-2005 hunting season (September 1, 2004-May 1, 2005)?

1 YES
2 NO – ***(If NO, you are welcome to fill out the remainder of the questionnaire. But, if you don't consider yourself a hunter please go to Question #30 on Page 10 or write "DID NOT HUNT" on the front cover and return to MSU in the postage-paid business reply envelope)***

2. How many days did you hunt in the 2004-2005 hunting season?

_____ DAYS HUNTED IN MISSISSIPPI

_____ DAYS HUNTED ELSEWHERE

3. How many years have you been hunting?

_____ YEARS

4. Are you a member of a national hunting or conservation organization?

1 YES --- ***(If YES, how many organizations? _____)***
2 NO

5. Do you subscribe to any hunting magazines?

1 YES --- ***(If YES, how many? _____); Which is your favorite?_____***
2 NO

6. At what age did you have your first hunting experience?

_____ AGE OF FIRST HUNTING EXPERIENCE

7. To the best of your recollection, what individual introduced you to hunting? ***(Please circle only one)***

1 GRANDFATHER
2 GRANDMOTHER
3 FATHER
4 MOTHER
5 BROTHER
6 SISTER
7 SON
8 DAUGHTER
9 UNCLE
10 AUNT
11 COUSIN
12 FRIEND
13 BUSINESS ASSOCIATE
14 CLIENT
15 YOUTH HUNTING EVENT INSTRUCTOR
16 INTRODUCED MYSELF
17 OTHER (***please specify***): _____

8. Who do you hunt with <u>most often</u> now? (***Please circle one to three choices below***)

1	GRANDFATHER(S)	9	UNCLE(S)
2	GRANDMOTHER(S)	10	AUNT(S)
3	FATHER	11	COUSIN(S)
4	MOTHER	12	FRIEND(S)
5	BROTHER(S)	13	BUSINESS ASSOCIATE(S)
6	SISTER(S)	14	CLIENT(S)
7	SON(S)	15	MYSELF
8	DAUGHTER(S)	16	OTHER (***please specify***): _____

9. Do you or someone in your household own an all terrain vehicle (ATV) that is used for hunting?

1 YES

2 NO

10. Which animal do you <u>most prefer</u> to hunt in Mississippi?

_____ FIRST CHOICE

_____ SECOND CHOICE

_____ THIRD CHOICE

Question #11 deals with the idea of legalizing white-tailed deer hunting over bait.

11. Legalizing white-tailed deer hunting over bait has been proposed in bills to the Mississippi Legislature for the past several years. Although all efforts thus far have been unsuccessful, this year the Legislature asked the Mississippi Commission on Wildlife, Fisheries, and Parks to poll hunters to determine their opinion on white-tailed deer hunting over bait. If you had to enter a polling booth today and vote on legalizing white-tailed deer hunting over bait, how would you respond to the following question:

Do you want to legalize white-tailed deer hunting over bait for future hunting seasons in Mississippi? ***(Please circle only one)***

1 YES

2 NO

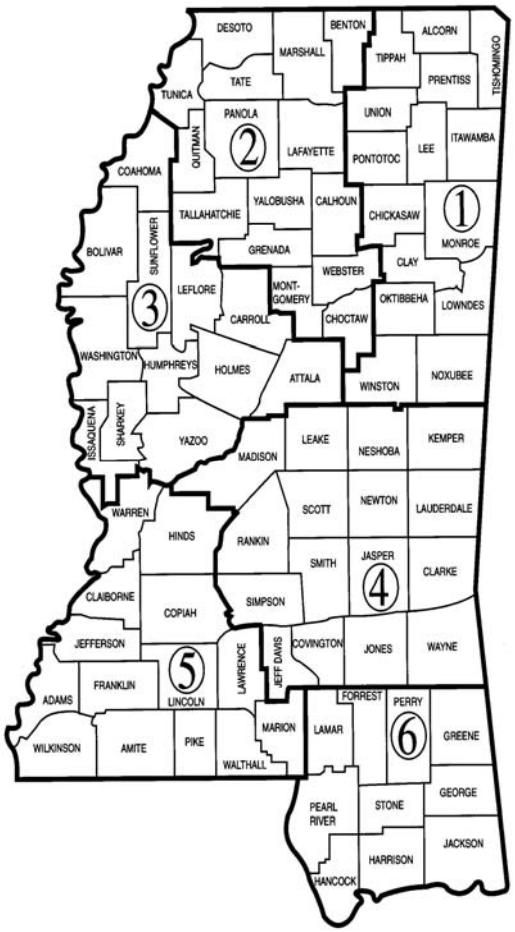
12. Please fill in the blocks below for each game, furbearer, or predatory species you hunted during the 2004-2005 hunting season (even if you were unsuccessful). If you hunted more than one species on a particular day, count a day for each species you hunted. Report only game, furbearer, or predatory species taken by you in Mississippi.

Species Sought	Total harvested in Mississippi in 2004-05 season	Days hunted species in Mississippi in 2004-05 season	District Hunted Most
Dove			
Quail			
Woodcock			
Rabbit			
Squirrel			
Raccoon			

	Bucks	Does		
Deer (Archery)				
Deer (Primitive Weapon)				
Deer (Gun)				
Turkey (Fall 2004)				
Turkey (Spring 2005)				

	Mallard	Wood	Other		
Ducks					
Geese					
Red fox					
Gray fox					
Bobcat					
Coyote					
Feral Hog					

DETERMINE DISTRICT (1-6) HUNTED MOST FROM THE MAP BELOW



Questions #13-15 deal with the cost of hunting licenses and your willingness to pay for possible increases in the cost of a license.

Nationwide, and in Mississippi, participation in hunting has been declining over the past few decades. Because wildlife management programs, and hunting programs & services provided by MDWFP's Wildlife Division are funded by license sales and taxes on hunting equipment, declining license sales means loss of revenue for providing these programs and services. Unfortunately, one of the few ways to maintain the current level of wildlife management programs, and hunting programs & services would be to increase hunting license fees. The purpose of the following questions is to determine if, and/or how much YOU would be willing to pay above the cost of your current license to continue to hunt in Mississippi. Even if the values in Question #14 may seem high or low to you, please answer as carefully as possible. The information in Questions #14 and #15 will help determine how many hunters would quit hunting in Mississippi rather than pay the increase, and help the Mississippi Legislature decide on whether an increase is warranted, and, if so, what is an appropriate cost increase.

13. What type of resident hunting license did you purchase for the 2004-05 license year which began July 1, 2004 and runs through June 30, 2005?

1 SMALL GAME HUNTING ($13.00)

2 ALL GAME HUNTING/FRESHWATER FISHING ($17.00)

3 SPORTSMAN LICENSE ($32.00)

14. If the cost of the license you purchased this year ***(See Question #13)*** was $_____ **MORE** next year, would you still purchase that same license at the higher cost to continue hunting in Mississippi?

1 YES

2 NO

15. How much more money, if any, would you be willing-to-pay above the cost of your current license ***(See Question #13)*** to continue hunting in Mississippi?

$_____ MORE

16. **Assessment of attitudes toward wildlife recreation are important because they are indicators of feelings, beliefs, and values possessed by individuals. Please indicate to what extent you agree or disagree with the following attitude statements regarding wildlife.**

Please start each statement with **"It is important to me personally"**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) To hunt game animals for recreation	1	2	3	4	5
b) To know that wildlife exist in nature	1	2	3	4	5
c) That wildlife are included in educational materials as the subject for learning more about nature	1	2	3	4	5
d) To trap furbearing animals for sale of fur or pelts	1	2	3	4	5
e) That I consider the presence of wildlife as a sign of the quality of the natural environment	1	2	3	4	5
f) That game animals are managed for an annual harvest for human use without harming the future of the wildlife population	1	2	3	4	5
g) That I tolerate most levels of property damage by wildlife	1	2	3	4	5
h) That local economies benefit from the sale of equipment, supplies, or services related to wildlife recreation	1	2	3	4	5
i) To talk about wildlife with family and friends	1	2	3	4	5
j) To hunt game animals for food	1	2	3	4	5
k) That I tolerate the ordinary risk of wildlife transmitting diseases to humans or domestic animals	1	2	3	4	5
l) To observe or photograph wildlife	1	2	3	4	5
m) To express opinions about wildlife and their management to public officials or to officials of private conservation organizations	1	2	3	4	5
n) That I appreciate the role that wildlife plays in the natural environment	1	2	3	4	5
o) That I understand more about the behavior of wildlife	1	2	3	4	5
p) To see wildlife in books, movies, paintings, or photographs	1	2	3	4	5
q) That I tolerate most wildlife nuisance problems	1	2	3	4	5

17. Knowing the worth of hunting is helpful for MDWFP in justifying its budgetary needs to the Mississippi Legislature. Identifying the types of motivations that can be achieved through hunting can also help MDWFP improve service delivery and provide more benefits. Please indicate how important each of the following items are as a reason for hunting in Mississippi.

		Not at all Important	Slightly Important	Moderately Important	Very Important	Extremely Important
a)	To gain a sense of self-confidence	1	2	3	4	5
b)	To be with individuals that have values similar to mine	1	2	3	4	5
c)	To compare my hunting equipment with other hunters	1	2	3	4	5
d)	To be with people that enjoy hunting as much as I do	1	2	3	4	5
e)	To test the extent to which I can hunt	1	2	3	4	5
f)	To become better at hunting	1	2	3	4	5
g)	To get my family together for a while	1	2	3	4	5
h)	To be close to nature	1	2	3	4	5
i)	To develop my hunting skills and abilities	1	2	3	4	5
j)	To bring my family closer together	1	2	3	4	5
k)	To be challenged	1	2	3	4	5
l)	To bag an animal	1	2	3	4	5
m)	To obtain a feeling of harmony with nature	1	2	3	4	5
n)	To test my hunting equipment	1	2	3	4	5
o)	To do something with my family	1	2	3	4	5
p)	To be with my friends	1	2	3	4	5
q)	To seek peace in the outdoors	1	2	3	4	5
r)	To discuss my hunting equipment with other hunters	1	2	3	4	5
s)	To become more aquainted with wildlife	1	2	3	4	5
t)	To become more aquainted with the natural environment	1	2	3	4	5
u)	To hunt with my companions	1	2	3	4	5
v)	To develop a sense of self pride	1	2	3	4	5
w)	To enjoy the smells and sounds of nature	1	2	3	4	5
x)	To bag a specific animal, such as a trophy	1	2	3	4	5
y)	To be with members of my hunting club/organization	1	2	3	4	5

Questions #18-26 deal with dove hunting in Mississippi. If you do not dove hunt or don't have an interest in dove hunting, please go to Question #27 on Page 9.

18. Currently, the dove hunting season in Mississippi is open for 60 days. Hunters are allowed to harvest 15 or fewer doves per day. Some hunters tell us that they would like the opportunity to hunt for doves on more days, and are willing to reduce the daily bag limit to do so. If you had your choice which of the following day and bag limit combination would you prefer?

1 I PREFER THE CURRENT 60 DAY/15 BIRD BAG LIMIT

2 I PREFER A 70 DAY/12 BIRD BAG LIMIT

19. Currently, the dove hunting season is broken up into 3 seasons, each having up to 20 days of hunting depending on the year. Some hunters tell us they would like to hunt more days in one season rather than the other two. If you had the opportunity to set the number of days for each of the three seasons, how many days would you assign to each in **YOUR** ideal dove hunting season under the current 60 day season framework?

2004-05 DOVE SEASON		***YOUR IDEAL DOVE SEASON***		
SEASON 1:	16 DAYS	SEASON 1: _____		DAYS
SEASON 2:	15 DAYS	SEASON 2: _____		DAYS
SEASON 3:	29 DAYS	SEASON 3: _____		DAYS
TOTAL:	60 DAYS	TOTAL:	60	DAYS

During the 2004-05 hunting season, MDWFP began providing fee-hunting opportunities on a few "MDWFP Sponsored Dove Fields." These fields are specially managed dove habitat tracts on private lands, and are certified as bait-free by MDWFP. Hunters request a particular program field, and stand in that field to hunt. Fields and stands are awarded on a first come, first serve basis. Currently, the permit ($50) allows the holder to hunt under the following regulations:

**** The permit allows hunters to hunt the assigned field/stand on Mondays, Wednesdays, and Saturdays after 12:00 p.m. during the first and second dove seasons.***

**** The permit allows for no more than two shooters per stand, of which only one may be an adult. Two youths may be able to hunt from a stand but only under the direct supervision of a non-hunting licensed adult, 21 years old or older. One limit of doves is allowed per hunter per day. The price of one permit covers the youth hunter(s).***

Although only a limited number of fields were managed this year, the MDWFP Wildlife Division and participating hunters felt the program was successful at producing a quality dove hunting opportunity, and they would like to expand the program statewide. The purpose of Questions #20-22 is to determine if YOU have an interest in participating in this fee-based dove hunting opportunity, and how much you would be willing-to-pay for the opportunity. Money collected from the fees goes directly back into the dove hunting program.

20. Would you be interested in paying a fee for a permit to hunt next year on a MDWFP Sponsored Dove Field under the conditions described on Page #7?

1 YES
2 NO --- (***Please go to Question # 23)***

21. If the cost of the fee was $_____, would you still be willing to pay this amount to hunt on a MDWFP Sponsored Dove Field?

1 YES
2 NO

22. How much money would you be willing-to-pay to hunt on an MDWFP Sponsored Dove Field under the regulations described on Page #7?

$ _____ WILLING TO PAY

The MDWFP Wildlife Division is also discussing alternatives to the current regulations on MDWFP Sponsored Dove Fields that may attract a greater number of hunters. Specifically, they are discussing starting the "MDWFP Dove Club." Club membership would consist of a permit to allow you to hunt an MDWFP Sponsored Dove Field and stand you requested on the first two days of the first season. After the first two days, you could hunt on any other MDWFP Sponsored Dove Field in the state every Monday, Wednesday, and Saturday of the first and second dove season. Other regulations would be the same as those listed on Page 7.

23. Would you be interested in paying a fee for a permit to hunt next year on a MDWFP Sponsored Dove Field under the conditions described above?

1 YES
2 NO --- (***Please go to Question #27 on Page 9)***

24. If the cost of the fee was $_____ would you be willing-to pay this amount to hunt on a MDWFP Sponsored Dove Field under the above regulations?

1 YES
2 NO

25. How much money would you be willing-to-pay to hunt on an MDWFP Sponsored Dove Field under the above regulations?

$ _____ WILLING TO PAY

26. If you answered **YES** to both Questions #20 and #23, which of the two would you prefer for next year's dove hunting season? ***(Please circle only one)***

1 BEING ABLE TO HUNT ONLY ONE FIELD PER PERMIT PER YEAR DURING SEASON ONE AND TWO.

2 BEING ABLE TO HUNT ONLY ONE FIELD PER PERMIT ON THE OPENING TWO DAYS, BUT ANY OTHER PROGRAM FIELD THE REMAINDER OF SEASON ONE AND TWO.

Questions #27-29 deal with squirrel hunting in Mississippi. If you do not squirrel hunt or don't have an interest in squirrel hunting, please go to Question #29 below.

27. Currently, there are three zones used for squirrel hunting in Mississippi. The Zone 1 (North) season starts October 1st, Zone 2 (Central) starts in mid October and Zone 3 (South) starts at the end of October. However, they all close at on the same date, meaning hunters in Zones 2 and 3 have fewer days to hunt. These Zones were set up by the Mississippi Legislature because of concerns over the presence of bot flies in squirrels in early to mid-October in Zones 2 and 3, respectively. However, some hunters in Zones 2 and 3 tell us that bot flies do not bother them and they would like to start hunting October 1st like they do in Zone 1.

Please indicate whether you support or oppose removing squirrel zones altogether and having a statewide squirrel season that starts October 1st.

1 Strongly Oppose
2 Oppose
3 Neutral
4 Support
5 Strongly Support

28. Some hunters have told us that they would like to have an additional squirrel hunting season that occurs sometime in late Spring or early Summer. States that have similar late seasons have found little evidence to suggest that such a late season negatively impacts squirrel populations.

Please indicate whether you would support or oppose establishing a late Spring or early Summer squirrel hunting season in Mississippi?

1 Strongly Oppose
2 Oppose
3 Neutral
4 Support
5 Strongly Support

29. What do you think MDWFP can do to improve its Wildlife Management Areas (WMA) for small game hunters? (***Please use the space provided below for your suggestions)***

The following questions will help us to know more about hunters. The information you provide will remain strictly confidential and you will not be identified with your answers.

30. Compared to your other outdoor recreation activities (such as fishing, camping, golfing, etc...) would you rate hunting as: ***(Please circle only one answer)***

1 YOUR MOST IMPORTANT OUTDOOR ACTIVITY
2 YOUR SECOND MOST IMPORTANT OUTDOOR ACTIVITY
3 YOUR THIRD MOST IMPORTANT OUTDOOR ACTIVITY
4 NONE OF THE ABOVE

31. What is your age? _____ YEARS

32. Are you?

1 MALE
2 FEMALE

33. In what county do you reside? _____ COUNTY

34. What is your approximate annual household income before taxes?

1	Under $10,000	7	$60,000 - $69,999
2	$10,000 - $19,999	8	$70,000 - $79,999
3	$20,000 - $29,999	9	$80,000 - $89,999
4	$30,000 - $39,999	10	$90,000 - $99,999
5	$40,000 - $49,999	11	$100,000 and ABOVE
6	$50,000 - $59,999		

35. What is your highest completed level of education? (***Please circle only one answer)***

1 2 3 4 5 6 7 8	9 10 11 12	13 14 15 16	17 18 19 20 21 22+
elementary	high school	college	graduate school

36. Are you of Spanish/Hispanic origin?

1 NO, NOT SPANISH/HISPANIC
2 YES, MEXICAN, MEXICAN AMERICAN, CHICANO
3 YES, OTHER SPANISH/HISPANIC GROUP ***(Please specify: _____)***

37. What is your race?

1 WHITE OR ANGLO
2 BLACK OR AFRICAN AMERICAN
3 NATIVE AMERICAN OR ALASKAN NATIVE
4 ASIAN OR PACIFIC ISLANDER
5 OTHER ***(Please specify:_____)***

38. Was this survey completed by the person to whom it was addressed?

1 YES
2 NO

Is there anything else you would like to share with us about hunting in Mississippi?

Your contribution of time to this study is greatly appreciated. Please return your completed questionnaire in the postage paid business reply envelope as soon as possible. Thank You.

Mississippi State University
Department of Wildlife and Fisheries
Mississippi State, MS 39762-9690
5/05

Appendix B

Survey correspondence with hunters for the 2005 Survey of Mississippi Resident Hunters

10000

Department of Wildlife and Fisheries
Box 9690
Mississippi State, MS 39762-9690

July 25, 2005

John Doe
123 Buck Drive
Fawn, MS 30759

Dear John:

In conjunction with the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) we are conducting a study of resident hunters in Mississippi and we need your help. We conduct this study each year to determine the attitudes and opinions of Mississippi hunters and the amount of game harvested in Mississippi during the previous hunting season.

The enclosed survey is designed to tell us about your hunting activity, attitudes towards various wildlife management issues, and game harvest in last year's hunting season (2004-2005). This year's survey focuses more so on small game hunting than previously, but also contains an important vote on hunting white-tailed deer over bait, and your willingness to pay for possible future license increases. The results of both questions will be presented to the Mississippi Legislature as they discuss these issues in the upcoming 2006 congressional session. The information you provide will also be useful in evaluating wildlife management in Mississippi, and will allow MDWFP to better represent the views of hunters to the MDWFP Commission and Mississippi Legislature.

Although the survey is completely voluntary, you are one of a small number of hunters selected to participate in this study and we hope that you will take the 15-30 minutes necessary to complete the survey and be part of the wildlife management process. It is important that YOU and no one else complete the questionnaire. Your responses are important to us whether you hunt often or just occasionally. If you bought a license but did not hunt last year, please write "DID NOT HUNT" on the front cover and send it back to us. That will prevent you from receiving follow-up letters from us, and help us to complete the study. All responses will be strictly confidential, and you will not be identified with your answers. Your answers will be grouped with other respondents in a non-identifiable manner. The survey has an identification number for mailing purposes only. This is so we can remove your name from the mailing list once we receive it.

After you complete the questionnaire, please return it to Mississippi State University in the postage-paid, business reply envelope as soon as possible. If you should have any questions about this research project, please feel free to contact me at Mississippi State University at (662) 325-4153. For additional information regarding human participation in research, please feel free to contact the MSU Regulatory Compliance Office at (662) 325-3994. Thank you in advance for your cooperation. We hope that your 2005-06 hunting season is a safe and successful one.

Sincerely,

Kevin M. Hunt

Dr. Kevin M. Hunt
Assistant Professor & Director
Human Dimensions & Conservation Law Enforcement Laboratory

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Department of Wildlife and Fisheries
Box 9690
Mississippi State, MS 39762-9690

August 19, 2005

John Doe
123 Buck Drive
Fawn, MS 30759

Dear John:

About three weeks ago, I sent you a survey of Mississippi hunters. As of today, I have not yet received your completed questionnaire. If you have recently returned your survey, please accept my thanks. The success and accuracy of this study depends on you and the others who have yet to respond. Those who have not responded may represent a completely different portion of the hunting public than those who have sent in their questionnaires and have different attitudes, hunting patterns and harvest rates. I ask for your help in making sure my results are representative of all hunters in Mississippi.

In case you misplaced your survey, I've enclosed another one. The survey is designed to tell me about your hunting activity, attitudes towards various wildlife management issues, and game harvest in last year's hunting season (2004-2005). The information you provide will be useful in evaluating wildlife management in Mississippi, and will allow the Mississippi Department of Wildlife, Fisheries & Parks (MDWFP) to better represent the views of hunters to the MDWFP Commission and Mississippi Legislature. If you did not hunt during the 2004-2005 hunting season please write **DID NOT HUNT** on the front of the questionnaire and mail it back to me so I can take your name off the mailing list. Although the survey is completely voluntary, you are one of a small number of hunters selected to participate in this study and I hope that you will take the 15-30 minutes necessary to complete the survey and be part of the wildlife management process.

All of your responses will be held in the strictest confidence with me at MSU, and you will not be identified with your answers. No one at MDWFP will ever know your name or responses as I group your answers with other respondents in a non-identifiable manner. After you complete the questionnaire, please return it to Mississippi State University in the postage-paid, business reply envelope as soon as possible. If you should have any questions about this research project, please feel free to contact me at Mississippi State University at (662) 325-4153. Thank you in advance for your cooperation. I hope that your 2005-06 hunting season is a safe and successful one.

Sincerely,

Dr. Kevin M. Hunt
Assistant Professor & Director
Human Dimensions & Conservation Law Enforcement Laboratory

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Department of Wildlife and Fisheries
Box 9690
Mississippi State, MS 39762-9690

October 7, 2005

John Doe
123 Buck Drive
Fawn, MS 30759

Dear John:

About a month ago, I sent you a survey of Mississippi hunters. As of today, I have not yet received your completed questionnaire. With the tragic disasters of Hurricane Katrina & Rita, I know there are other issues far more significant that you may be facing at this time. For that reason, I am empathetic to your situation and hope that you will respond only if you can. Please forgive me if this survey mailing has offended you, but the business of the State and University must go on despite the obstacles we all must face.

If you have recently returned your survey, please accept my thanks. The success and accuracy of this study depends on you and the others who have not yet responded. Those who have not responded may represent a completely different portion of the hunting public than those who have, and have different attitudes, hunting patterns and harvest rates. I ask for your help in making sure my results are representative of all hunters in Mississippi.

In case you misplaced your survey, I've enclosed another one. If you did not hunt during the 2004-2005 hunting season please write **DID NOT HUNT** on the front of the questionnaire and mail it back to me so I can take your name off the mailing list. Although the survey is completely voluntary, you are one of a small number of hunters selected to participate in this study and I hope that you will take the 15-30 minutes necessary to complete the survey and be part of the wildlife management process. After you complete the questionnaire, please return it to Mississippi State University in the postage-paid, business reply envelope as soon as possible.

If you should have any questions about this research project, please feel free to contact me at Mississippi State University at (662) 325-4153. Thank you in advance for your cooperation during this difficult time for our State and Nation. I wish you the best and hope you will still be able to enjoy this year's hunting season.

Sincerely,

Dr. Kevin M. Hunt
Assistant Professor & Director
Human Dimensions & Conservation Law Enforcement Laboratory

Appendix C

Assessing Impacts of Hunting License Fee Increases on Hunter Participation in Mississippi

Abstract

Hunting participation rates have continued to decline in the United States causing a reduction in funding for state wildlife and fisheries agencies, this reduction in funding was due to a reduction in hunting license purchases. Increasing license fees may alleviate the funding problem, but past research has shown that this practice may decrease future hunter participation. The Willingness to Pay (WTP) for an increase in hunting licenses in Mississippi was determined using the Contingent Valuation Method (CVM) through a survey of 2004-2005 Mississippi resident hunters. The WTP of Small Game, All Game, and Sportsman licenses were assessed. Median bid value, where 50% of hunters would agree to pay for the increase, maximum bid value, and annual revenue created from each license type were calculated. The Small Game median bid value was $66.81, creating $164,697.00 in revenue, and the maximum bid value was $80.25, creating $169,065.00 in revenue, while displacing 57% of hunters. The All Game median bid value was $68.50, creating $2,502,631.00 in revenue, and the maximum bid value was $185.00 creating $3,934,214.00 in revenue while displacing 71% of hunters. The Sportsman median bid value was $123.50, creating $6,671,896.00 in revenue, and the maximum bid value was $229.50, creating $8,267,295.00 in revenue while displacing 67% of hunters. Hunter displacement must be taken into consideration due to a potential decrease in hunting participation, economic impacts, political support, and conservation efforts.

Introduction

The U. S. population has slowly transformed from a rural agrarian society into an urbanized and technology-driven society, which has led to a decline in hunter recruitment and interest in hunting (Miller and Vaske 2003). Since 1975, fishing and hunting recreation has decreased by 18% (Enck, Decker, and Brown 2000). Despite this decline, Mississippi hunting participation increased by less than 5%, from 1991 to 1996 (Enck, Decker, and Brown 2000). In 2001, only 6% of the U.S. population participated in hunting, yet Mississippi had one of the highest percentages of participation, with 12% of the population purchasing a hunting license (USDOI and USDOC 2001). Consequences of this decline could affect

several important areas, such as agency funding, political support for consumptive wildlife uses, and support for conservation efforts.

All state wildlife agencies have depended on the user pay/user benefit system of the Federal Aid in Wildlife Restoration Act (Decker, Brown, and Siemer 2001). Some states may increase their state budget for wildlife and fishery programs by way of state taxes, but all states received a certain percentage of funding through the Wildlife Restoration Act (Decker, Brown, and Siemer 2001). The more hunting licenses a state can sell, the more funding the agency can receive; therefore, if participation has decreased, so will the funding.

One method to make up for the loss of funding could be to increase the price of a hunting license, but a potential drawback for increasing hunting license fees would be the possibility of a decrease in future hunters (Sutton, Stoll, and Ditton 2001). In Alabama, an increase of hunting and fishing license fees, which did increase the agency revenue, was followed by a decline in license sales (Mehmood, Zhang, and Armstrong. 2003). Fedler and Ditton's (2001) statewide survey of Texas anglers stated that a fee increase was one leading cause of a decrease in angler participation rates.

Constraints

Generation of revenue through license fees has allowed agencies to afford facility maintenance, salaries, and to fund research, but the fee may be viewed as a constraint to hunter participation. A constraint influences whether or not an individual participates in an activity, such as hunting or fishing (More and Stevens 2000). Constraints to hunting participation included license cost, user fees, lack of hunting opportunity, lack of prior hunting experience, and demographic variables, such as race or age (Fedler and Ditton 2001, Miller and Vaske 2003). If a hunter considered a license fee increase to be unreasonable, or a constraint, he/she may decide to leave hunting and become involved in other activities, such as golf or sporting events. Furthermore, this situation may decrease the chance for the hunter to pass on the 'tradition' of hunting to the next generation. Enck, Decker, and Brown's (2000) study suggested that trends in hunting participation indicated that less hunter recruitment and retention was occurring, which inferred a continued decrease in hunting participation. If this trend continued, hunting participation

could diminish, further upsetting the financial support for state agencies. In a study conducted by Sutton, Stoll, and Ditton (2001), it was found that for every dollar increase in an angler license fee, the license sales would decrease by less than 5%. Monetary constraints were considered to be a factor in the reduction of angler license purchases (Sutton, Stoll and Dinton 2001).

It has been shown that user fees may exclude those with lower incomes from using publicly owned resources, which included wildlife (More and Stevens 2000). Overall, African Americans and Hispanics have lower incomes than Caucasians, and most live in urban areas, both of which are factors that influence hunting participation (Hunt and Ditton 2002). According to the study conducted by Johnson, Bowker, and Cordell (2001), time and money are two of the most influential constraints when it comes to minorities participating in outdoor recreation, including hunting. Washburne (1978) considered the Theory of Marginality, which states that the African American participation in outdoor recreation was low because of socioeconomic discrimination and poverty, and that activity cost was the most often cited reason for a lack of participation. Gender and income have been variables in hunter recruitment, participation, and retention (Johnson, Bowker, and Cordell 2001). In 2001, less than 10% of those who hunted in Mississippi were women (USDOI and USDOC 2001).

As the demographics of the U.S. change, another effect may be a decrease in the political support that fish and wildlife agencies and hunting organizations receive from the public. Ballot measures on restricting consumptive wildlife uses have already occurred in some states, such as Massachusetts (Minnis 1998). Wildlife policy may be affected more by the values held by the public and less by sound research. The effect of fee increases must be thoroughly studied when an agency debates an increase in hunter license fees due to the potential erosion of future hunting participation rates.

Even though the U.S. population has been shifting towards a racial plurality, hunting is dominated by Caucasians, and as the percentage of Caucasians decreases, the percentage of those participating in hunting could decrease (Enck, Decker, and Brown 2000). Several hunting categories, such as large game, have had increasing participation rates, while others have been in decline, such as the small game hunters which have decreased by 40% since 1991 (Enck, Decker, and Brown 2000). In 2001, 88% of Mississippi

hunters were Caucasian, which comprised the largest component of big game hunters, and 11% were African American, who comprised mainly the small game hunter category (USDOI and USDOC 2001). Nationally, 37% of African American hunters hunted squirrel (*Sciurus spp.)*, while only 16% of Caucasians hunted squirrel (USDOI and USDOC 2004). The same pattern was seen for rabbits (*Sylvilagus spp.*) where 45% African Americans hunted rabbit, versus 16% of the Caucasian hunters (USDOI and USDOC 2004).

Hunting Licenses

In Mississippi, there were three hunting licenses. The Small Game license, which allowed one to hunt squirrel, rabbit, Northern bobwhite (*Colinus virginianus*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), and bobcat (*Lynx rufus*), is $13.85[1] (MDWFP 2005). The All Game license was $18.85[1] and allowed one to hunt all game, including small game (MDWFP 2005). The Sportsman license, which was considered to be the best value, is $33.85[1], allowed one to hunt all game, including small game, and provided a fall turkey permit, archery permit, and primitive weapon permit (MDWFP 2005).

Objectives

To address how an increase in hunting licenses affected hunting participation, the Contingent Valuation Method (CVM) was used to calculate the Willingness to Pay (WTP) for the increase. The WTP was the amount one was willing to pay for certain goods or services and the CVM method attempted to value a resource through WTP. The objective of this study was to determine if an increase in hunting fees would potentially decrease future hunters, how many hunters would be displaced, and assess WTP for higher license fees.

Procedures and Methods

The development and mailing of an 11 page self-administered questionnaire was conducted through the Human Dimensions and Conservation Law Enforcement Laboratory (HDCLEL) of Mississippi State University. This study was funded by the Mississippi Department of Wildlife,

[1] Includes a $1.85 processing and agent fee.

Fisheries, and Parks to determine the feasibility of a hunting license fee increase. Questions elicited information on hunting experiences and preferences, legalized white-tailed deer baiting, harvest numbers, WTP for license increases, attitudes towards wildlife recreation, and sociodemographic information.

A sample of 1,000 hunters from each license type (n=3000) was selected from the MDWFP 2003-2004 hunter license file and was used to survey those participating in the 2004-2005 hunting season. Survey procedures followed a modified Dillman (1978) method, where the number of mail-outs was increased from three to four, and a reminder postcard was not used. The first mailing consisted of a survey, response envelope and introductory letter, explaining the purpose and benefits of the research, supporting organizations, contact information, Institutional Review Board approval number, and a confidentiality statement. The second survey mailing took place 21 days after the initial mailing, and contained a thank you letter for completing the survey, and also reminded non-respondents to fill out and return the survey as soon as possible. After the second mailing, respondents from the Gulf Coast counties of Jackson, Harrison and Hancock were removed due to Hurricane Katrina. Forty-six days and sixty-three days after the initial mailing, a third and a fourth mailing were conducted. These mailings were geared only towards non-respondents and consisted of another copy of the survey, a response envelope, and another introductory letter restating the importance and confidentiality of participation.

Models used for calculating WTP, demand curves, and expected hunter displacement were adapted from research conducted by Sutton, Stoll, and Ditton (2001). Bid values, or the license fee increase, were randomly assigned to each hunter and ranged from a $3 to $200 increase for Small Game licenses, a $3 to $300 increase for All Game licenses and a $3 to $500 increase for Sportsman licenses. There was no change in the "goods" offered, such as an increased hunting season or more hunting areas. WTP values were used to determine the probabilities of a hunter purchasing a license at the higher bid value price. Logistic regression was used to find the probability of a respondent paying for a higher hunting license fee. Independent variables were 1) race, 2) income, 3) age, 4) importance of hunting when compared

to other activities, 5) gender, 6) education, 7) affiliation with a non-governmental organization, 8) subscription to a hunting magazine and 9) the hypothetical license cost.

Once the significant variables were identified, demand curves were created following the Sutton, Stoll, and Ditton (2001) model to determine the relationship between the license cost and number of licenses purchased for each type of license. The expected number of licenses purchased for each bid value was calculated by multiplying the predicted probability of those who indicated they would purchase a license at the higher bid value by the number of actual hunters from the 2004-2005 hunting season. The probability of the number of licenses purchased was created from the logistic regression model. If the Small Game License fee was increased by $10, the regression model would predict that the probability of a hunter purchasing a Small Game license would be 0.77. This probability would be multiplied by the actual number of Small Game licenses purchased during the 2004-2005 hunting season (0.77 x 4928 = 3821) in order to get the expected number of licenses purchased at that particular bid value. The number of hunters displaced by license increase, revenue created from the median bid value (median revenue = bid value where 50% of the hunters agreed to purchase the increased license x number of license sold), and maximum amount of revenue created was calculated.

Results

The effective response rate of the hunters who purchased a Small Game license was 52.8%, with 264 non-deliverables. The effective response rate of the hunters who purchased an All Game license was 45.0%, with 227 non-deliverables. The effective response rate of the hunters who purchased a Sportsman license was 59.0%, with 123 non-deliverables.

The median bid value that hunters who purchased a Small Game license would pay to continue hunting in Mississippi was $66.81. At this value, 50% of hunters would be displaced. Revenue created from this bid value would be $164,697. If the agency wanted to maximize revenue created from increased bid values, maximum revenues would be $169,065 by increasing

the license fee to $80.25 (Figure C1). This would displace 57% of hunters. The revenue difference between the median and maximum bid value of the Small Game license was $4,376.

The median bid value that hunters who purchased an All Game license would pay to continue hunting in Mississippi was $68.50. At this value, 50% of hunters would be displaced. Revenue created from this bid value would be $2,502,631. If the agency wants to maximize revenue created from increased bid values, maximum revenues would be $3,934,214 by increasing the licenses by $185 (Figure C2). This would displace 71% of hunters that purchase an All Game license. The revenue difference between the median and maximum bid value was $1,431,582.

The median bid value that hunters who purchased a Sportsman license would pay to continue hunting in Mississippi was $123.50. At this value, 50% of the hunters would be displaced. Revenue created from this bid value would be $6,671,896. If the agency wants to maximize revenue created from increased bid values, maximum revenues would be $8,267,295 by increasing the licenses by $229 (Figure C3). This would displace 67% of hunters that purchased a Sportsman license. The revenue difference between the median and maximum bid value was $1,595,399.

Discussion

If an agency wanted to increase revenues created from hunting licenses, the agency would need to consider the possibility of displacing hunters and potentially reducing the rate of future hunting participation. A participation decrease may influence political and funding decisions made by governing bodies over the agency. Management decisions such as population control may be affected if there is a decline in hunting participation. Also, the agency may direct more of their funds towards non-consumptive wildlife uses, such as wildlife watching and urban wildlife programs.

One method for increasing license fees may be to identify a revenue goal needed for the upcoming fiscal year. If the agency's goal revenue was $100,000, then they may consider increasing each license type fee. If they increased the Small Game license fee by $25, the All Game license fee by $13, and the Sportsman license fee by $78, this increase would bring in approximately $112,000 above the current revenue. By increasing each amount, the total number of hunters displaced would be approximately

76,000. If the agency decided this was not an acceptable amount of displaced hunters, they could reduce the license cost until an acceptable amount of displaced hunters was identified. The agency may decide to increase one or two of the license fees but not all three, depending on the estimated hunter displacement.

With this in mind, overall political and public support for consumptive wildlife uses may decline as the public becomes less involved with hunting. For example, in Mississippi, if the Small Game license fee was increased, and a decrease in participation resulted, there may be a decrease in African American participation since 36% of Mississippians are African Americans and comprise 11% of Mississippi hunters (USDOI and USDOC 2001, USCB 2000). The increased cost may become a perceived barrier for some African Americans, thereby decreasing hunting participation (Washburne 1978). Also, this decrease may decrease the African American political support for consumptive wildlife uses. Hunting may be viewed as a wealthy Caucasian dominated activity; therefore, the African American community may not support or promote funding for consumptive wildlife uses.

Another consequence for increasing license fees could be the potential increase in poaching. Hunters may view the increase as unacceptable and hunt illegally. Hunting regulations have been in place to manage the consumptive use of wildlife at a sustainable harvest level. There are many reasons why a person participates in hunting, such as to collect trophies or to provide substance, but sometimes hunting regulations interfere with what may be viewed as a tradition or right to hunt (Decker, Brown and Siemer 2001). If hunting licenses are increased, this may have an effect on those that view hunting as a traditional right and inadvertently increase the poaching of wildlife.

A decrease in hunting participation may affect the amount of federal money the state receives through the Federal Aid in Wildlife Restoration Act. During the 2004 fiscal year, Mississippi received over $3.5 million from the Wildlife Restoration Act for use in hunter education programs and habitat management, rehabilitation, and research (USDOI and USFWS 2005). The amount of federal aid is dependent on the number of hunting licenses sold, so the amount the state would receive would decline. Fish and wildlife agencies must consider all possible effects of increasing the license fees for hunting, how it will affect future hunter participation, revenue, and political support.

Through this study, hunting in Mississippi was shown to be greatly valued. The Small Game license was the most valued license, with the Sportsman license the second most valued. It was expected that the Sportsman license would be the most valued since it allows one to hunt all types of game and includes the turkey and the primitive weapon permit. Further studies would need to be conducted to identify the motivations for the preferences of one license type over the other.

There are some considerations that should be given to the limitations of this study. In Mississippi, fishing permits are included with hunting licenses, but anglers were not included in the sample. Only those stating that they hunted during the 2004-2005 season were included, which may have an effect on the WTP rates and probabilities. Angler participation rates would need to be taken into account when considering increasing license fees. A fee increase may affect angler participation in a similar way. The response rate was most likely decreased by the effects of Hurricanes Katrina and Rita. The amount of financial support derived from the Federal Aid in Wildlife Restoration Act was not taken into consideration during this project, but it would have a substantial influence on the entire amount of funding a state has for a fish and wildlife agency.

Summary

A portion of agency funding was determined by the number of licenses sold. Increasing license fees was one way to generate more annual revenues for the agency, but this increase may have detrimental effects on hunter participation rates. This study has illustrated that theoretically Mississippi license fees can be almost doubled with a risk of only losing 50% of current hunters. To maximize revenue, if an agency was willing to lose a larger percentage of hunters, it may increase its fees dramatically. An increase in revenue may be temporary, but the declining hunter participation may be permanent. This effect should be weighed heavily before the determination of a license fee increase, because future funding and political influences may be affected.

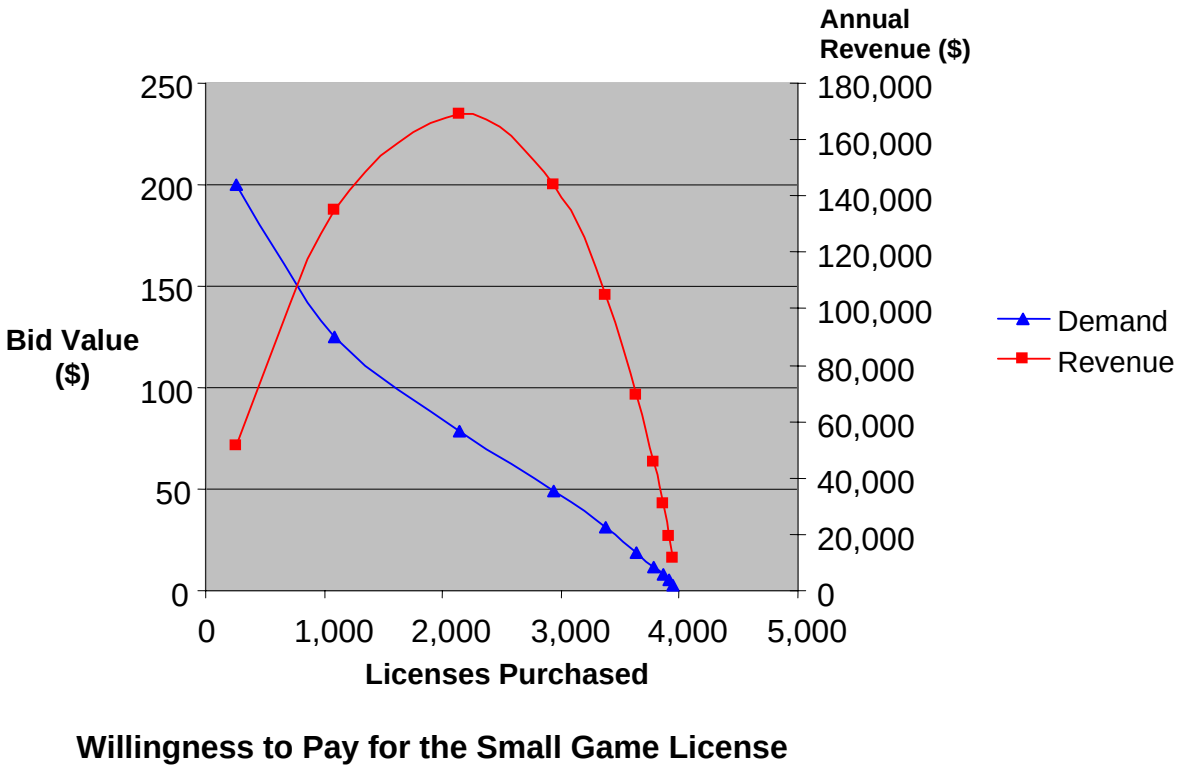

Figure C1. Mississippi hunters' Willingness to Pay (demand), for a Small Game License to continue hunting in Mississippi and annual revenue created from various bid values (2003 U.S. Dollars)

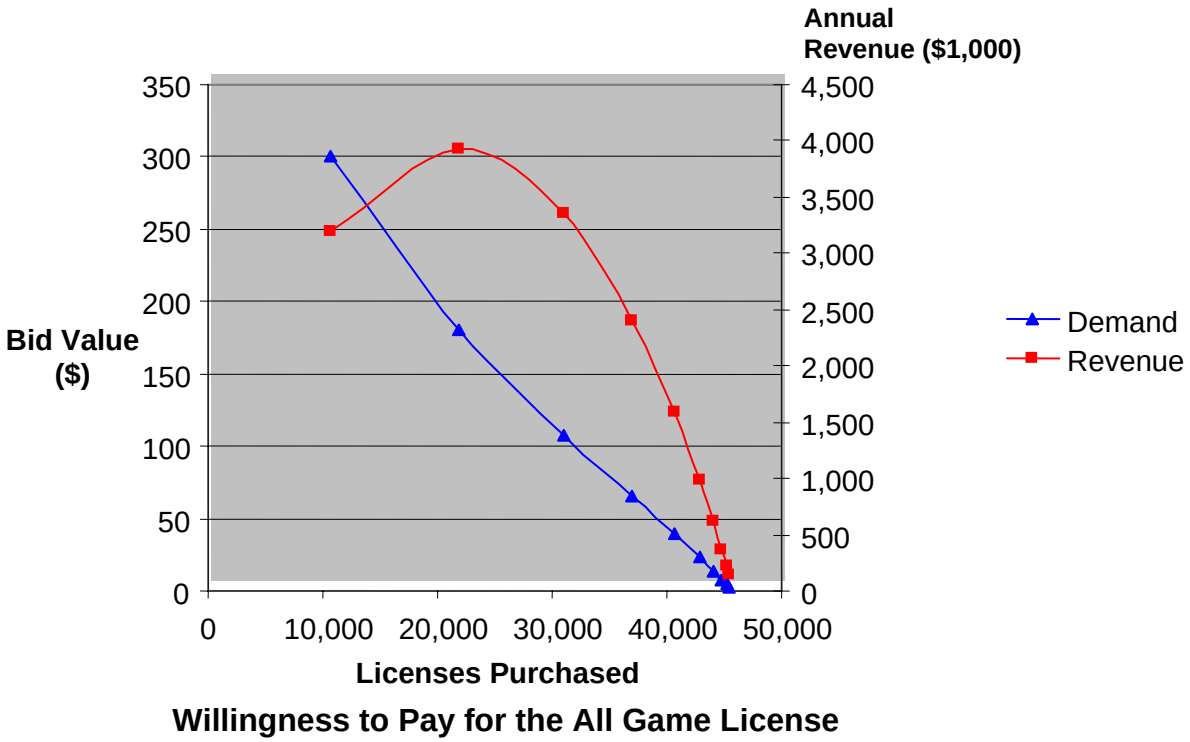

Figure C2. Mississippi hunters' Willingness to Pay (demand), for an All Game License to continue hunting in Mississippi and annual revenue created from various bid values (2003 U.S. Dollars)

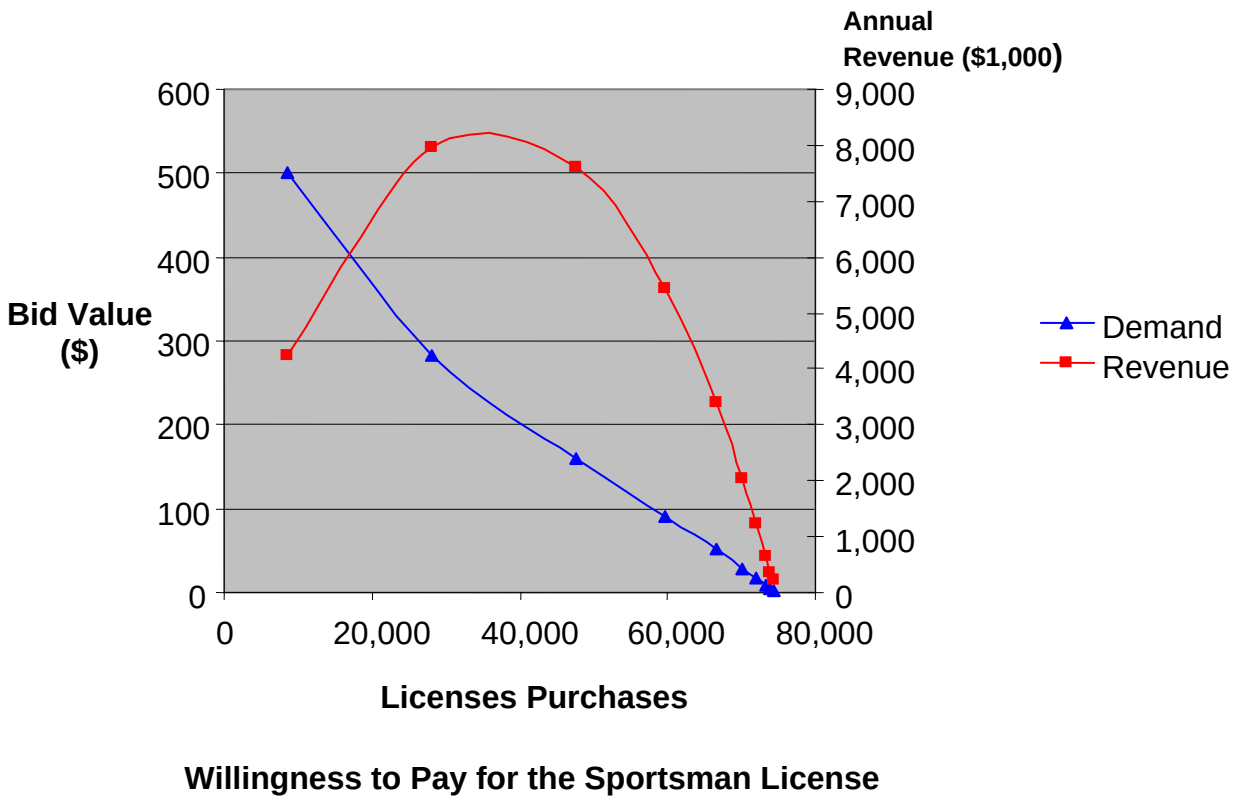

Figure C3. Mississippi hunters' Willingness to Pay (demand), for a Sportsman License to continue hunting in Mississippi and annual revenue created from various bid values (2003 U.S. Dollars)

References

Decker, J. D., T.L. Brown, and W. F. Siemer. 2001. Restoration of wildlife species. *Human Dimensions of Wildlife Management in North America*. The Wildlife Society, Bethesda, Maryland.

Dillman, D. A. 1978. Mail and telephone surveys. *The Total Design Method*. John Wiley and Sons, New York, New York.

Enck, J. W., D. J. Decker, and T. L. Brown. 2000. Status of hunter recruitment and retention in the United States. *Wildlife Society Bulletin* 28(4): 817-824.

Fedler, A. J. and R. B. Ditton. 2001. Dropping out and dropping in: A study of factors for changing recreational fishing participation. *North American Journal of Fisheries Management* 21: 283-292.

Hunt, K. M. and R. B. Ditton. 2002. Freshwater fishing participation patterns of racial and ethnic groups in Texas. *North American Journal of Fisheries Management*22: 52-65.

Johnson, C. Y., J. M. Bowker, and K. Cordell. 2001. Outdoor recreation constraints: An examination of race, gender and rural dwelling. *Southern Rural Society* 17: 111-133.

Mehmood S., D. Zhang, and J. Armstrong. 2003. Factors associated with declining hunting license sales in Alabama. *Human Dimensions of Wildlife* 8: 243-262.

Miller, C. A. and J. J. Vaske. 2003. Individual and situational influences on declining hunter effort in Illinois. *Human Dimensions of Wildlife* 8: 263-276.

Minnis, D. L. 1998. Wildlife policy-making by the electorate: An overview of citizen-sponsored ballot measures on hunting and trapping. *Wildlife Society Bulletin* 26(1): 75-83.

Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP). 2005. Resident hunting license prices. *Outdoor Digest*. Jackson, Mississippi.

More, T. and T. Stevens. 2000. Do user fees exclude low-income people from resource-based recreation? *Journal of Leisure Research* 32(3): 341-357.

Sutton, S. G., J. R. Stoll, and R. B. Ditton. 2001. Understanding anglers' willingness to pay increased fishing license fees. *Human Dimensions of Wildlife* 6: 115- 130.

Washburne, R. F. 1978. Black under-participation in wild land recreation: Alternative explanations. *Leisure Sciences* 1(2): 175-189

U.S. Census Bureau (USCB). 2000. State and county quick facts: Mississippi. *Census 2000*.

U.S. Department of the Interior (USDOI), and Fish and Wildlife Service, U.S. Department of Commerce (USDOC). 2005. U. S. Fish and Wildlife Service final apportionment of Pittman-Robertson Wildlife Restoration funds for fiscal year 2005.

U.S. Department of the Interior (USDOI), Fish and Wildlife Service, U.S. Department of Commerce (USDOC), and U.S. Census Bureau. 2001. National survey of fishing, hunting, and wildlife-associated recreation: Mississippi.

U.S. Department of the Interior (USDOI), Fish and Wildlife Service, U.S. Department of Commerce (USDOC), and U.S. Census Bureau. 2004. Participation and Expenditure patterns of African American, Hispanic and female hunters and anglers.

Appendix D

Willingness to Pay for MDWFP Sponsored Dove Fields

The Contingent Valuation Method (CVM), as described earlier in Appendix C, was used to estimate willingness to pay (WTP) for two different types of dove hunting permits (Sutton, Stoll, and Ditton, 2001). Both permits would allow hunting on MDWFP sponsored fields on private lands that would be managed for dove and certified as bait-free. The permits would be issued on a first-come basis and the hunter would pick the stand or field of their choice. The first option was introduced for the 2004-2005 hunting season at a cost of $50 and allowed hunting on the chosen stand/field on Mondays, Wednesdays, and Saturdays after 12:00 p.m. during the first and second dove seasons. The second option was under consideration as an alternative and called the "MDWFP Dove Club." This option would allow the member to hunt on the MDWFP sponsored dove stand/field of choice for the first two days of the first season. Afterwards, the member would be allowed to hunt on any other MDWFP sponsored dove field in the state every Monday, Wednesday, and Saturday of the first and second dove seasons.

In a self-administered mail questionnaire, dove hunters (Tables D1 and D2) and those interested in dove hunting were asked if they would be willing to purchase a permit to hunt under each option (Tables D3 and D4). These hunters were also asked if they would prefer purchasing a permit for either option one or option two (Table D5). Dove hunters and those persons interested in dove hunting were also asked what they would be willing to pay for each option. Hypothetical permit costs for both options were randomly assigned to each hunter and ranged from $2-$50 (Tables D6 and D7). Logistic regression was used to identify the significant variables that affected respondents' WTP for the MDWFP sponsored dove permit and to estimate the median permit costs (where 50% of the hunters agreed to purchase the permit). In the original logistic regression model, 1) the independent variables included total days hunted, 2) dove harvested per day, 3) total dove harvest, 4) total days of dove hunting, 5) years hunting, 6) membership to a hunting or conservation organization, 7) preference of current hunting season or preference for an extended hunting season with a reduced bag limit, 8) hypothetical permit cost,

9) socioeconomic information, 10) age, 11) gender, and 12) personal importance of hunting as an outdoor activity.

Logistic regression was used to reduce the original model by identifying only the significant variables that affected respondents' WTP (Table D8). The significant variables for the first option were hypothetical permit cost ($P < 0.0001$) and respondents' annual gross household income ($P = 0.0005$). Significant variables for the second option (Table D9) were hypothetical permit cost ($P < 0.0001$) and total dove harvest from the previous season ($P = 0.0089$). For both options, hypothetical permit cost was negatively related to respondents' WTP (i.e., as permit cost increased, the likelihood of a hunter purchasing a permit declined). For the first option, respondents' income was positively related to WTP. For the second option, respondents' total dove harvest for the season was positively related to WTP. The estimated median cost was $55.96 for the first option and $33.90 for the second option. When an open ended question asked about their WTP for a permit the respondents' mean WTP for the first option was $23.44 (Table D10) and $21.13 (Table D11) for the second option.

Reference

Sutton, S. G., J. R. Stoll, and R. B. Ditton. 2001. Understanding anglers' willingness to pay increased fishing license fees. *Human Dimensions of Wildlife* 6: 115- 130.

Table D1. Respondents' preference for either the current dove hunting season and bag limit or a proposed increase in the dove hunting season with a reduction in bag limit (Q 18)

Dove Hunting Season	*n*	Percent
I prefer the current 60 day/15 bird bag limit	647	72.3
I prefer a 70 day/12 bird bag limit	248	27.7
Total	895	100.0

Table D2. Average number of days for each of the three dove hunting seasons that respondents' indicated to create the "ideal" 60 day dove hunting season (Q 19)

Season	Frequency	Mean	Standard Deviation
1	728	19.96	8.72
2	705	17.04	5.18
3	694	22.33	8.18

Table D3. Respondents' indication of whether or not they would be willing to purchase a permit to hunt on a MDWFP Sponsored Dove Field for the 2005-2006 hunting season under the first option of being able to hunt only one field per permit per year during season one and two (Q 20)

Purchase Under First Option	*n*	Percent
Yes	452	49.7
No	458	50.3
Total	910	100.0

Table D4. Respondents' preference for the option to purchase a permit to hunt on a MDWFP Sponsored Dove Field for the 2005-2006 hunting season following the second option of being able to hunt only one field per permit on the opening two days, but any other program field the remainder of season one and two (Q 23)

Purchase Under Second Option	*n*	Percent
Yes	428	48.5
No	455	51.5
Total	883	100.0

Table D5. Respondents' preference for purchasing a MDWFP Sponsored Dove Field permit for either option one or option two (Q 26)

Option	*n*	Percent
Option 1: Being able to hunt only one field per permit per year during season one and two.	71	15.8
Option 2: Being able to hunt only one field per permit on the opening two days, but any other program field the remainder of season one and two.	378	84.2
Total	449	100.0

Table D6. Respondents' indication of whether or not they would be willing to pay the hypothetical permit cost for the first option of the MDWFP Sponsored Dove Field (Q 21)

Hypothetical Permit Cost ($)	Yes	No	Total
2	80.7	19.3	100.0
3	70.7	29.3	100.0
4	76.1	23.9	100.0
6	70.6	29.4	100.0
8	79.6	20.4	100.0
12	77.5	22.5	100.0
17	75.6	24.4	100.0
24	60.4	39.6	100.0
35	66.7	33.3	100.0
50	51.6	48.4	100.0

Table D7. Respondents' indication of whether or not they would be willing to pay the hypothetical permit cost for the second option of the MDWFP Sponsored Dove Field (Q 24)

Hypothetical Permit Cost ($)	Yes	No	Total
2	77.8	22.2	100.0
3	80.6	19.4	100.0
4	78.6	21.4	100.0
6	80.8	19.2	100.0
8	69.4	30.6	100.0
12	67.2	32.8	100.0
17	65.0	35.0	100.0
24	52.6	47.4	100.0
35	44.6	55.4	100.0
50	37.5	62.5	100.0

Table D8. Logistic regression table identifying significant variables for the MDWFP Sponsored Dove Field option one

Variable	Estimate	Std. Err.	Wald Chi-square	P-value
Intercept	0.693	0.227	9.320	0.002
Hypothetical permit cost	-0.025	0.006	17.022	<0.001
Income	0.109	0.031	11.980	0.001
Model Chi-square	26.480			<0.001
Number of observations	593			

Table D9. Logistic regression table identifying significant variables for the MDWFP Sponsored Dove Field option two

Variable	Estimate	Std. Err.	Wald Chi-square	P-value
Intercept	1.154	0.207	31.103	<0.001
Total doves harvested for the season	0.017	0.007	6.676	0.010
Hypothetical permit cost	-0.045	0.008	31.362	<0.001
Model Chi-square	42.457			<0.001
Number of observations	366			

Table D10. Respondents' Willingness-to-pay (WTP) to hunt on an MDWFP Sponsored Dove Field under the first option (Q 22)

WTP ($)	*n*	Percent
0	92	16.7
1-10	143	26.0
11-20	107	19.4
21-30	64	11.6
31-40	31	5.6
41-50	78	14.2
51-60	5	0.9
> 61	31	5.6
Total	551	100.0

Mean amount respondents were willing to pay = $23.44.

Table D11. Respondents' Willingness-to-pay (WTP) to hunt on an MDWFP Sponsored Dove Field under the second option (Q 25)

WTP ($)	*n*	Percent
0	80	15.5
1-10	161	31.2
11-20	93	18.0
21-30	71	13.7
31-40	25	4.8
41-50	59	11.4
51-60	4	0.8
> 61	24	4.6
Total	517	100.0

Mean amount respondents were willing to pay = $21.13.