

*Mississippi Trapper Harvest Estimates for the 1976-77 to
2005-06 Trapping Seasons*

Prepared for the

**Division of Wildlife
Mississippi Department of Wildlife, Fisheries and Parks
Jackson, Mississippi**

By

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TABLE OF CONTENTS

TABLE OF CONTENTS i

LIST OF TABLES ii

LIST OF FIGURES v

INTRODUCTION..... 1

METHODS..... 1

RESULTS..... 2

ACKNOWLEDGMENTS 4

LITERATURE CITED..... 4

APPENDIX A – 2006 MISSISSIPPI TRAPPER HARVEST SURVEY INSTRUMENT49

APPENDIX B – SURVEY CORRESPONDENCE WITH TRAPPERS FOR THE 2006
MISSISSIPPI TRAPPER HARVEST SURVEY54

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LIST OF TABLES

Table #		Page
1	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1976-77 season.....	5
2	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1977-78 season.....	6
3	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1978-79 season.....	7
4	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1979-80 season.....	8
5	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1980-81 season.....	9
6	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1981-82 season.....	10
7	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1982-83 season.....	11
8	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1983-84 season.....	12
9	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1984-85 season.....	13
10	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1985-86 season.....	14
11	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1986-87 season.....	15
12	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1987-88 season.....	16

13	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1988-89 season.....	17
14	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1989-90 season.....	18
15	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1990-91 season.....	19
16	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1991-92 season.....	20
17	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1992-93 season.....	21
18	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1993-94 season.....	22
19	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1994-95 season.....	23
20	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1995-96 season.....	24
21	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1996-97 season.....	25
22	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1997-98 season.....	26
23	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1998-99 season.....	27
24	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 1999-00 season.....	28
25	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 2000-01 season.....	29

26	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 2001-02 season.....	30
27	Expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper and percent successful trappers by furbearer species for the 2002-03 season.....	31
28	Expanded state wide harvest estimates, average catch per trapper, average catch per successful trapper, and percent successful trappers by furbearer species for the 2003-04 season. There were n=466 licensed trappers in Mississippi in 2003-04.....	32
29	Expanded state wide harvest estimates, average catch per trapper, average catch per successful trapper, and percent successful trappers by furbearer species for the 2004-05 season. There were n=503 licensed trappers in Mississippi in 2004-05.....	33
30	Expanded state wide harvest estimates, average catch per trapper, average catch per successful trapper, and percent successful trappers by furbearer species for the 2005-06 season. There were n=476 licensed trappers in Mississippi in 2005-06.....	34

LIST OF FIGURES

Figure #		Page
1	Seasonal trends in mink trapping harvest estimates in Mississippi.....	35
2	Seasonal trends in raccoon trapping harvest estimates in Mississippi.	36
3	Seasonal trends in muskrat trapping harvest estimates in Mississippi.....	37
4	Seasonal trends in red fox trapping harvest estimates in Mississippi.....	38
5	Seasonal trends in gray fox trapping harvest estimates in Mississippi.....	39
6	Seasonal trends in bobcat trapping harvest estimates in Mississippi.	40
7	Seasonal trends in opossum trapping harvest estimates in Mississippi.....	41
8	Seasonal trends in otter trapping harvest estimates in Mississippi.....	42
9	Seasonal trends in spotted skunk trapping harvest estimates in Mississippi.....	43
10	Seasonal trends in striped skunk trapping harvest estimates in Mississippi.....	44
11	Seasonal trends in coyote trapping harvest estimates in Mississippi.	45
12	Seasonal trends in weasel trapping harvest estimates in Mississippi.	46
13	Seasonal trends in nutria trapping harvest estimates in Mississippi.....	47
14	Seasonal trends in beaver trapping harvest estimates in Mississippi.	48

INTRODUCTION

Trapper harvest mail surveys in Mississippi have been conducted since the 1976-77 season. These surveys provide estimates for monitoring changes in trapper harvest to determine trends over time. It should be noted that changes in such factors as harvest regulations and habitat conditions, as well as changes in furbearer population levels may be reflected in and monitored by changes in trapper harvest estimates.

Mail surveys to obtain wildlife harvest data result in parameter estimates which contain sampling, response, and non-response biases. As a result of these biases, the degrees of accuracy of the estimates are unknown. Filion (1980) reviewed these biases and their effect on estimates. Although parameter estimates obtained from mail surveys may not be totally accurate, they provide good estimates for trend determinations if sources of bias remain constant. At the present time these mail surveys are the best, most economically practical method available. As Wright (1978) has indicated, until the wildlife profession can develop more accurate methods of estimating population numbers, measures of absolute harvest are relatively meaningless and harvest estimates should be adequate.

The objective of the trapper survey is to provide a statistically reliable set of statewide harvest estimates for furbearer species in Mississippi. No effort was made to interpret the data presented here. The purpose of this publication is to compile existing information for future reference.

METHODS

The methods used for identifying trappers in Mississippi have varied over the years due to changes in laws relating to trapping and changes in personnel assigned to the duty. Hamrick et. al. (1986) described the different survey methods used from the 1976-77 season through the 1982-83 season. Beginning with the 1980-81 season the Mississippi trapper license was modified to provide an extra copy of the trappers name, address, and trapper identification number. This copy was in the form of a prepaid postcard addressed to the Mississippi Department of Wildlife,

Fisheries and Parks (MDWFP). After the license was issued this extra copy was filled out by the trapper and mailed to the MDWFP. This provided the MDWFP furbearer biologist an annual list of virtually all licensed trappers. Once license files became computerized, identification of licensed trappers became simplified through the use of codes used to identify various license types in the MDWFP license file. The list of licensed trappers is currently generated from the license files after the close of the trapping season (end of February). Estimates presented for the 2000-01 and subsequent seasons are based upon final trapping license sales figures as of the close of the trapping season, i.e., end of February. All other years are based upon the end of June license sales. Because not all trappers returned the aforementioned report cards prior to that season, trapping license sales from previous seasons were available at the end of June and represented approximately 95% (with very minor variation) of the yearly total.

For the 2006 Mississippi Trapper Harvest Survey, each licensed trapper (n=476) was sent a self-administered questionnaire (Appendix A) in May, 2006. The survey was mailed with a personalized letter from Mississippi State University (MSU) researchers and provided them with harvest results from the previous survey. Three questionnaire mailings were made as state law requires that trappers must complete the survey. Out of the 476 trappers sent a survey, 405 returned useable data. After taking into account non-deliverables (n=5) an effective response rate of 86% was achieved. Data were edited for legibility, key punched into a Microsoft Access database, and analyzed using Version 9.1 of the Statistical Analysis Software (SAS).

RESULTS

The expanded statewide harvest estimates, average catch per trapper, average catch per successful trapper, and percent successful trappers for each trapping season since the 1976-77 trapping season are presented in Tables 1-30. The precision of all estimates is shown as standard errors in the tables (if available). Figures 1-14 present trend graphs the aforementioned estimates over the entire reporting period.

When interpreting trends in harvest and trapper effort several elements need to be considered. These are similar to those listed by Steffen (1983) for interpretation of hunter survey data in Mississippi. Elements to consider are:

1. Changes in population numbers.
2. Habitat changes.
3. Correlations between the harvest and effort parameters.
4. Seasonal weather conditions (e.g. heavy rainfall and freezing weather negatively affect trapping operations).
5. Changes in regulations and laws.
6. Changes in trapper access (e.g. a 1978 law required landowner permission to trap).
7. The shifting of trapper emphasis among species (influenced by pelt prices and demand).
8. Economic changes:
 - a) Gasoline costs
 - b) License costs
 - c) Leisure time available
 - d) Unemployment
 - e) Overall fur prices
9. Immigration of new inexperienced trappers into the trapping population
10. Emigration of experienced trappers from the trapping population.
11. Harvest and effort incidental to trapping for other species (e.g. land sets for fox may take raccoon, bobcat or coyote maybe taken in beaver sets).

Bobcat, red and gray fox, raccoon, opossum, and coyote are also taken by hunting.

Hunting harvest estimates often exceed trapping harvest estimates and should be considered when evaluating trends for these species.

ACKNOWLEDGMENTS

This compilation would not have been possible without the efforts and cooperation of many people. Many present and former MDWFP personnel from all divisions provided direct or indirect assistance. MDWFP personnel deserving special recognition are: Dene Smith for her administrative duties related to the survey, Ben Sessums and the print shop crew for producing survey instruments, Curtis Thornhill and his staff for providing license information, and Randy Spencer for serving as liaison between MDWFP and Mississippi State University.

Thanks also go to Cathy Shropshire of the Mississippi Wildlife Federation for her help on answering questions related to previous studies. Finally, we thank Mallory Sullivan and Nathan Gregory of the Human Dimensions & Conservation Law Enforcement Laboratory in the Forest & Wildlife Research Center at Mississippi State University for data processing and construction of data tables.

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Appendix A

2006 Mississippi Trapper Harvest Survey Instrument

2006
*Mississippi Trapper
Harvest Survey*



*Conducted for the
Mississippi Department of Wildlife, Fisheries & Parks
by
Human Dimensions & Conservation Law Enforcement Laboratory
Forest & Wildlife Research Center
Mississippi State, MS 39762*

A. Please answer the following questions related to your trapping in Mississippi in the previous season.

1. Did you trap furbearers in Mississippi during the 2005-2006 trapping season (November 1, 2005 – February 28, 2006)?

- 1 YES
- 2 NO – *(If NO, Please go to Question #6)*

2. In what county did you do most of your trapping?

3. How many days (or nights) did you have traps set?

4. How many traps did you use of the following trap types?

- _____ LEGHOLDS
- _____ SOFT CATCH
- _____ CONIBEAR (KILLER TYPE)
- _____ SNARES

5. How long was your trap line?

_____ MILES

6. What kind of trapper do you consider yourself?

- 1 Strictly land trapper
- 2 Mostly land trapper
- 3 50% land – 50% water trapper
- 4 Mostly water trapper
- 5 Strictly water trapper

7. What is your age: _____ YEARS

8. How many years have you been trapping?

_____ YEARS

B. What was your catch for this past season (2005-2006)? If you trapped with a partner, include only your portion of the partnership catch.

	<i>Total Number Trapped</i>	<i>Total Number Taken by Hunting</i>	<i>Others Taken (Road kills)</i>	<i>Total Number Sold</i>
(1) Mink	_____	_____	_____	_____
(2) Raccoon	_____	_____	_____	_____
(3) Muskrat	_____	_____	_____	_____
(4) Red Fox	_____	_____	_____	_____
(5) Gray Fox	_____	_____	_____	_____
(6) Bobcat	_____	_____	_____	_____
(7) Opossum	_____	_____	_____	_____
(8) Otter	_____	_____	_____	_____
(9) Spotted Skunk (Civet)	_____	_____	_____	_____
(10) Striped Skunk	_____	_____	_____	_____
(11) Coyote	_____	_____	_____	_____
(12) Weasel	_____	_____	_____	_____
(13) Nutria	_____	_____	_____	_____
(14) Beaver	_____	_____	_____	_____

C. 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 trapping or wildlife management 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
3/06

Appendix B

Survey correspondence with trappers for the 2006 Mississippi Trapper Harvest Survey

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Mississippi State
UNIVERSITY

Human Dimensions & Conservation Law
Enforcement Laboratory
Forest & Wildlife Research Center
Box 9690
Mississippi State, MS 39762-9690

April 3, 2006

Johnny M. Trapper
1234 Duck Drive
Starkville, MS 39759

Dear Johnny:

I am conducting a study of licensed resident and non-resident trappers in Mississippi for the Mississippi Department of Wildlife, Fisheries & Parks (MDWFP) and I need your help. I conduct this annual study to determine the trapping activity and harvest rates of Mississippi trappers.

Whereas you are required by law to complete this survey, I hope that you will do so voluntarily because of its importance to the management of furbearer species in Mississippi. The information you provide gives MDWFP the information they need to better manage various wildlife populations important to trappers.

It is important that YOU and no one else complete the questionnaire. Your responses are important to us whether you trap often, just occasionally, or if last year was your first time trapping in Mississippi. 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 I can remove your name from the mailing list once your survey is received.

After you complete the questionnaire, please return it to Mississippi State University in the postage-paid, business reply envelope as soon as possible. On the back side of this letter are the results on trapper harvest in Mississippi from the information licensed trappers provided in last year's survey. I hope to continue to find ways to inform you of pertinent trapper information as I continue to explore the 25 years of survey data that has been entrusted with me. If you have any questions, please feel free to call me at Mississippi State University at (662) 325-4153. Thank you for your assistance and good luck during the upcoming trapping season.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin M. Hunt".

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

Table 1. Expanded statewide harvest estimates, average catch per trapper, average catch per successful trappers, and percent successful trappers by furbearer species for the 2004-05 season. There were 503 licensed trappers in Mississippi in 2004-05.

Species	Number of Animals Harvested in Mississippi by Licensed Trappers	Average Harvest per Licensed Trapper in Mississippi	Average Harvest Per Successful Licensed Trapper in Mississippi	Percent Successful Licensed Trappers in Mississippi
Mink	271.20	0.65	4.09	17.05
Raccoon	12596.01	30.40	33.76	96.07
Muskrat	718.10	1.77	6.87	26.88
Red Fox	290.30	0.61	3.04	24.59
Gray Fox	1685.75	3.37	7.97	54.42
Bobcat	2010.42	4.81	8.09	63.93
Opossum	8027.68	19.52	28.27	73.11
Otter	2610.11	6.249	9.67	69.50
Spotted Skunk	61.11	0.06	4.80	3.27
Striped Skunk	1030.04	2.35	7.42	35.74
Coyote	3063.38	6.61	12.86	61.31
Weasel	20.37	0.052	4.00	1.31
Nutria	1278.32	3.13	9.29	35.41
Beaver	14085.68	34.68	42.88	84.59

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Mississippi State
UNIVERSITY

Human Dimensions & Conservation Law
Enforcement Laboratory
Forest & Wildlife Research Center
Box 9690
Mississippi State, MS 39762-9690

April 26, 2006

Johnny M. Trapper
1234 Duck Drive
Starkville, MS 39759

Dear Johnny:

About three weeks ago, I sent you a survey of licensed resident and non-resident trappers in Mississippi. As of today, I have not received your completed questionnaire. If you have recently returned your survey, please accept my thanks. You and the other trappers who have not returned their questionnaires may represent a completely different portion of the trapper population. Because there are so few trappers in Mississippi to determine trapping activity and harvest rates, every response matters and we need your help.

Whereas you are required by law to complete this survey, I hope that you will do so voluntarily because of its importance to the management of furbearer species in Mississippi. The information you provide gives MDWFP the information they need to better manage various wildlife populations important to trappers.

It is important that YOU and no one else complete the questionnaire. Your responses are important to us whether you trap often, just occasionally, or if last year was your first time trapping in Mississippi. 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 I can remove your name from the mailing list once your survey is received.

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 have any questions, please feel free to call me at Mississippi State University at (662) 325-4153. Thank you for your assistance and continued success in your trapping endeavors.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin M. Hunt".

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

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Mississippi State
UNIVERSITY

Human Dimensions & Conservation Law
Enforcement Laboratory
Forest & Wildlife Research Center
Box 9690
Mississippi State, MS 39762-9690

May 23, 2006

Johnny M. Trapper
1234 Duck Drive
Starkville, MS 39759

Dear Johnny:

About a month ago, I sent you a survey of licensed resident and non-resident trappers in Mississippi. As of today, I have not received your completed questionnaire. If you have recently returned your survey, please accept my thanks. You and the other trappers who have not returned their questionnaires may represent a completely different portion of the trapper population. Because there are so few trappers in Mississippi to determine trapping activity and harvest rates, every response matters and we need your help. The information you provide gives MDWFP the information they need to better manage various wildlife populations important to trappers.

Your responses are important to us whether you trap often, just occasionally, or if last year was your first time trapping in Mississippi. All responses will be strictly confidential, and you will not be identified with your answers. 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 have any questions, please feel free to call me at Mississippi State University at (662) 325-4153. Thank you in advance for your help.

Sincerely,

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