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## 1996-97 MICHIGAN FURBEARER HARVEST

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### INTRODUCTION

Estimates of furbearer harvest are important indicators of the relative abundance of furbearing mammals. Harvest estimates, as well as hunter and trapper numbers, are used to help establish the regulations for hunting and trapping seasons.

The Michigan Department of Natural Resources (MDNR) uses two methods to obtain furbearer harvest data: 1) self-administered questionnaires and 2) mandatory registration reports of river otter (*Lutra canadensis*), bobcat (*Felis rufus*), badger (*Taxidea taxus*), and fisher (*Martes pennanti*).

Estimates derived from the furbearer hunting and trapping questionnaires are the result of mail surveys. Questionnaires are sent to a randomly selected sample of those having purchased either a Resident Fur Harvester, Junior Fur Harvester, Non-resident Fur Harvester license, Junior Fur TRAP ONLY, or Resident Fur TRAP ONLY license.

Michigan has no closed season on opossum (*Didelphis virginiana*), weasels (*Mustela* spp.), and skunks (*Mephitis mephitis*). They may be taken year-round with any hunting license and may be under-reported in survey hunting results. Raccoons (*Procyon lotor*) and coyotes (*Canis latrans*) may be hunted or trapped on private property by the property owner or designee during the closed season if the animal is doing or is about to do damage. A license is not needed, and legal harvests during the closed season are not reported. Consequently, the total harvest of these furbearers may be under-estimated because not all legal take of furbearers is included in this survey.

All river otter, bobcat, badger, and fisher taken during their respective hunting and/or trapping seasons are required to be presented to the MDNR to be registered and sealed. In this report, registered harvests of river otter, fisher, and badger are presented, while survey estimated harvests are presented for bobcat. All estimates of effort are derived from mail questionnaires.



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## METHODS

At the end of the 1996-97 fur harvester seasons, 977 license buyers were mailed a questionnaire asking for the results of their hunting and trapping efforts. Those who failed to respond to the original mailing were sent up to three reminders (Table 1). A total of 775 questionnaires were returned for a response rate of 79 percent.

Fur harvesters were asked to report their take and hunting/trapping effort for the following species: muskrat (*Ondatra zibethica*), mink (*Mustela vison*), raccoon, opossum, striped skunk, weasels, red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), coyote, bobcat, beaver (*Castor canadensis*), river otter, badger (*Taxidea taxus*), and fisher.

## RESULTS

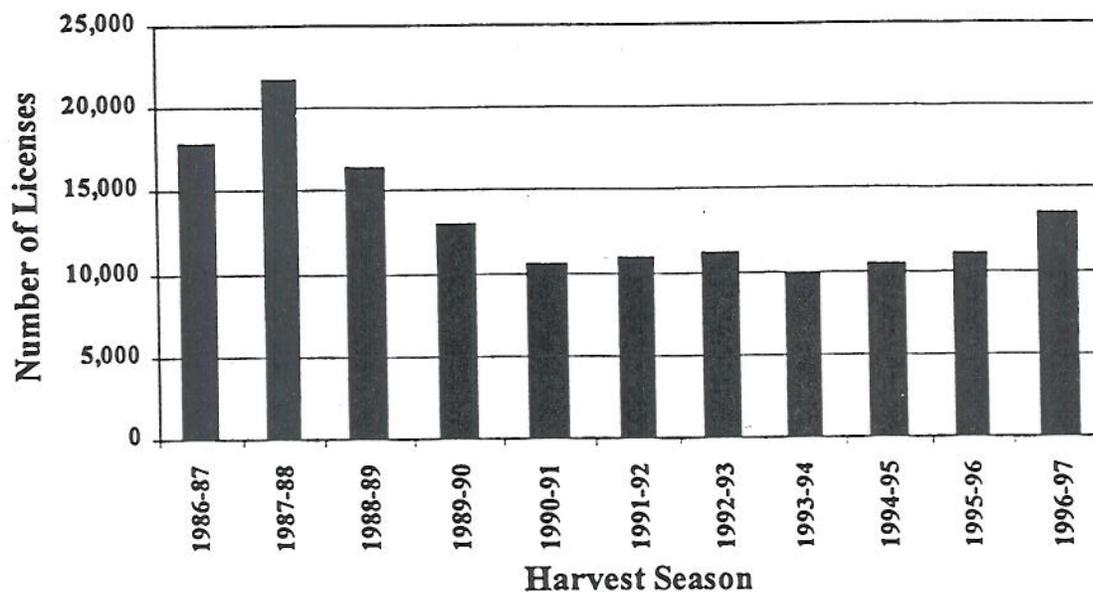
The number of Fur Harvester licenses sold in 1996-97 increased 22 percent from 1995-96 (Figure 1). An estimated 10,947 individuals (81%) hunted or trapped furbearing animals using one of the five license types. Approximately sixty percent of these individuals (6,575) used traps while sixty-four percent (7,061) hunted furbearers. Of those participating in the season, twenty-four percent (2,689) both hunted and trapped furbearers.

The majority of raccoon, coyote, and bobcat were taken by hunters, while trappers took a greater number of opossum, skunk, weasel, and fox (Table 2). Trapping is the only legal means of take for mink, muskrat, beaver, otter, fisher, and badger. Based on days of effort, raccoon and muskrat were the primary targets of trappers (Table 3), while hunters put their greatest effort toward the pursuit of raccoon and coyote (Table 4).

Harvests of coyote and bobcat by both hunters and trappers increased from 1994-95 to 1996-97 (Tables 5 and 6). Coyote harvest increased four-fold for hunters and doubled for trappers during that period. Bobcat harvest increased by 6 percent for hunters and 10 percent for trappers during the same period. Dramatic changes in harvests from 1994-95 to 1996-97 also occurred for raccoon, opossum, and fox. Raccoon and opossum trapping harvest increased by 30 percent during that period, while red fox trapping harvest decreased by 36 percent. Red fox hunting harvest tripled and gray fox hunting harvest increased by 81 percent during that same period, while opossum hunting harvest decreased by 96 percent.

Overall, total harvest estimates appear to be increasing since the decrease in harvests in 1988-89 (Reis, T.F. 1989. 1988-89 Michigan Furbearer Harvest. MI. Dept. Nat. Resour. Wildl. Div. Rep. No. 3130.). This increased harvest may be a result of the increase in Fur Harvester license sales since 1993-94 and a 26 percent increase in the statewide number of hunters and trappers from 1994-95 to 1996-97. However, total harvests of all species except coyote and bobcat have still not reached the high estimated harvests from the 1986-87 to 1987-88 seasons.

**Figure 1. Number of Fur Harvester licenses sold. Fur Harvester licenses include Resident Fur Harvester, Junior Fur Harvester, and Non-resident Fur Harvester. In 1996-97, it also includes Resident Fur TRAP ONLY and Junior Fur TRAP ONLY.**



**Table 1. Summary of Fur Harvester license buyers and survey responses.**

License Type	1996-97 License Sales
Resident Fur Harvester	12,192
Junior Fur Harvester	826
Non-resident Fur Harvester	15
Resident Fur TRAP ONLY	346
Junior Fur TRAP ONLY	66
<b>Total</b>	<b>13,445</b>

Mailing Summary	1996-97 Total
Questionnaires sent	997
Questionnaires returned	775
Non-deliverable	16
Non-response	206
Percent of delivered questionnaires returned	79%
Estimated number of trappers	6,575
Estimated number of hunters	7,061
Estimated number who both hunted and trapped	2,689

**Table 2. Percentage of the total furbearer harvest taken by hunters and trappers during the 1996-97 season.**

Species	Percentage Taken By Trappers	Percentage Taken By Hunters	Total Harvest
Mink	100	NP <sup>1</sup>	20,141
Raccoon	38	62	248,099
Opossum	99	1	24,704
Skunk	100	0	4,858
Weasels	100	0	972
Red Fox	53	47	12,438
Gray Fox	77	23	2,776
Coyote	36	64	10,496
Bobcat	40	60	902
Beaver	100	NP	41,671
Muskrat	100	NP	222,649
Otter <sup>2</sup>	100	NP	1,416
Fisher <sup>2</sup>	100	NP	471
Badger <sup>2</sup>	100	NP	105

<sup>1</sup> NP = not permitted.

<sup>2</sup> Harvest of otter, fisher, and badger based on registration results.

**Table 3. 1996-97 furbearer trapping results.**

Species	Number Harvested	Days of Effort	Mean Days Per Harvested Animal
Mink	20,141	86,898	4.3
Raccoon	93,109	107,196	1.2
Opossum	24,531	56,139	2.3
Skunk	4,858	24,513	5.0
Weasel	972	8,206	8.4
Red Fox	6,540	38,409	5.9
Gray Fox	2,134	22,935	10.7
Coyote	3,747	35,686	9.5
Bobcat	364	12,005	33.0
Beaver	41,671	81,260	2.0
Muskrat	222,649	117,726	0.5
Otter <sup>1</sup>	1,416	34,615	24.4
Fisher <sup>1</sup>	471	1,885	4.0
Badger <sup>1</sup>	105	2,496	23.8

<sup>1</sup> Harvest is based on registration results, while days of effort are based on survey results.

**Table 4. 1996-97 furbearer hunting results.**

Species	Number Harvested	Days of Effort	Mean Days Per Harvested Animal
Raccoon	154,990	111,723	0.7
Opossum	173	347	2.0
Red Fox	5,898	39,363	6.7
Gray Fox	642	17,435	27.2
Coyote	6,749	54,786	8.1
Bobcat	538	18,806	35.0

Table 5. Comparison of the 1996-97 furbearer trapping season with 1993-94 and 1994-95<sup>1</sup>.

Species	1993-94			1994-95			1996-97		
	Number of Trappers	Number Harvested	Harvest Per Trapper	Number of Trappers	Number Harvested	Harvest Per Trapper	Number of Trappers	Number Harvested	Harvest Per Trapper
Mink	2,063	18,755	9.1	3,470	18,630	5.4	3,071	20,141	6.6
Raccoon	2,630	45,831	17.4	4,177	71,670	17.2	4,511	93,109	20.6
Opossum	1,238	16,555	13.4	1,392	18,873	13.6	2,290	24,531	10.7
Skunk	636	4,281	6.7	1,061	5,746	5.4	1,214	4,858	4.0
Weasel	327	877	2.7	530	1,503	2.8	382	972	2.5
Red Fox	1,410	5,415	3.8	1,812	10,210	5.6	2,134	6,540	3.1
Gray Fox	619	1,152	1.9	884	2,320	2.6	1,006	2,134	2.1
Coyote	705	1,221	1.7	1,083	1,878	1.7	1,509	3,747	2.5
Bobcat	275	120	0.4	464	332	0.7	538	364	0.7
Beaver	1,668	25,684	15.4	2,762	56,753	20.5	2,463	41,671	16.9
Muskrat	2,871	193,400	67.4	4,022	261,178	64.9	4,233	222,649	52.6
Otter <sup>2</sup>	948	1,251	1.3	1,459	1,526	1.0	1,041	1,416	1.4
Fisher <sup>2</sup>	-	425	-	-	417	-	226	471	2.1
Badger <sup>2</sup>	-	90	-	-	124	-	243	105	0.4

<sup>1</sup> Survey was not conducted in 1995-96.

<sup>2</sup> Harvest is based on registration results.

Table 6. Comparison of the 1996-97 furbearer hunting season with 1993-94 and 1994-95.

Species	1993-94			1994-95			1996-97 <sup>1</sup>		
	Number of Hunters	Number Harvested	Harvest Per Hunter	Number of Hunters	Number Harvested	Harvest Per Hunter	Number of Hunters	Number Harvested	Harvest Per Hunter
Mink	17	0	0.0	66	265	4.0	-	-	-
Raccoon	3,129	94,190	30.1	3,558	161,529	45.4	4,250	154,990	36.5
Opossum	327	1,392	4.3	243	3,978	16.4	17	173	10.2
Skunk	69	447	6.5	66	221	3.3	-	-	-
Weasel	-	-	-	22	22	1.0	-	-	-
Red Fox	1,255	1,117	0.9	1,392	1,989	1.4	2,706	5,898	2.2
Gray Fox	395	86	0.2	309	354	1.1	1,041	642	0.6
Coyote	1,736	2,991	1.7	1,746	1,658	0.9	3,539	6,749	1.9
Bobcat	1,238	344	0.3	1,304	508	0.4	1,509	538	0.4

<sup>1</sup> Survey was not conducted in 1995-96.