



MICHIGAN DEPARTMENT OF NATURAL RESOURCES  
Wildlife Division Report No. 3465  
JULY, 2006

Printed by Authority of: PA 451 of 1994  
Total number of Copies Printed.....10  
Cost Per Copy: .....\$0.25  
Total Cost: .....\$2.50

Michigan Department of Natural Resources



## BOBCAT SURVEY 2005 – 2006

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### Introduction

In order to allow the export of bobcat (*Felis rufus*) pelts under the Convention on International Trade in Endangered Species (CITES), the United States Fish and Wildlife Service compiles data on the harvest and status of bobcats. This documentation is necessary to verify the stability of bobcat populations to allow for their continued harvest and the exportation of pelts. This is the twenty-sixth consecutive year of the bobcat survey in Michigan (previous Wildlife Division Reports, Cooley et al. 1981-2005).

During the 2005-2006 bobcat hunting and trapping season, licensed fur takers were allowed two bobcats per person. No more than one bobcat could be taken in Bobcat Management Units (BCMU) C and D and only one bobcat could be taken on Drummond Island (BCMU B). This was the second year an 11-day bobcat trapping season was added prior to the hunting season in BCMU C and D. As in previous years, the Wildlife Division of the Department of Natural Resources (DNR) required trappers and hunters to submit bobcat skulls or teeth for examination, and pelts for sealing. The age and sex of harvested bobcats were determined by canine tooth examination. Survey results are summarized by management zones in Tables 1-5 (Zone 1 - Upper Peninsula – BCMU A and B, Zone 2 - Northern Lower Peninsula BCMU C and D, Figure 1).

### Materials & Methods

A lower canine tooth was extracted after the skull was boiled in water for one hour. Maximum root width and thickness of the canine allowed for sex determination (Friedrich et al. 1983). Age was estimated by counting cementum annuli in longitudinal thin sections of the tooth root (Crowe 1975).



A contribution of Federal Aid in Wildlife Restoration, Michigan Project W-147-R

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## **Results and Discussion**

### **Zone 1**

There were 163 bobcats registered as taken by hunters and 444 registered as taken by trappers from Zone 1 during the 2005-2006 bobcat season. There were 499 bobcat tooth samples submitted from a registered harvest of 607 from Zone 1, compared to 693 harvested in the 2004-2005 season. The sex ratio of bobcats examined from Zone 1 (Table 1) was 126:100 (actual 278:221) males to females. This was the twenty-second time in twenty-six years of data collection that the ratio favored males. The percentage of young-of-the-year (24.0%) was slightly less than last year (26.5%). Of the bobcats submitted, 74.5% were less than three years of age, which is consistent with previous years' data. The zero to one year old (24.0%), and the one to two year old (31.3%) age classes occurred most frequently in the sample.

### **Zone 2**

There were 146 bobcats registered as taken by hunters and 56 registered as taken by trappers from Zone 2 during the 2005-2006 bobcat season. There were 174 tooth samples collected from a registered harvest of 202 from Zone 2, compared to 265 harvested in the 2004-2005 season. The sex ratio of Zone 2 bobcats (Table 4) was 156:100 (actual 106:68) males to females. The percentage of young-of-the-year harvested by hunting (20.5%) was up from last year (14.6%). The percentage of young-of-the year harvested by trapping (17.0%) was down from last year (25.0%). Of the bobcats submitted, both hunting and trapping, 66.1% were less than three years of age. The one to two year old (21.8 %), and the two to three year old (24.7%) age classes occurred most frequently in the sample.

### **Zones 1 and 2**

The number of bobcats registered during the 2005-2006 season (809) was down from last year (958). The mandatory submission of bobcat heads or teeth to the DNR for examination resulted in 673 useable samples for a compliance rate of 83.2% (673/809). The combined totals of the submitted samples from both Zones (Table 5) exhibited a distribution in the age classes and sex ratios consistent with past years.

## **Management Implications**

The collection and examination of bobcat teeth provides baseline information on the status of bobcat populations in Michigan. Using dental measurements for sex determination has allowed for improved data collection. Results of harvest sex and age distribution are used in conjunction with other indices to evaluate the population status of bobcat in Michigan.

## **Acknowledgments**

We thank the bobcat trappers and hunters for their cooperation along with Wildlife Division personnel and volunteers, for collecting the bobcat heads and teeth and submitting them for examination. Thanks are also extended to Melinda Cosgrove and Kristine Brown for assisting in analysis, to Marshall Strong for Figure 1, to Dwayne Etter for editing, and to Sheree Kershaw and Cheryl Nelson-Fliearman for assisting in the preparation of this report.

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Table 1. Estimated age and sex ratio of Zone 1 bobcats, 2005-2006 season

Age	Males	Females	Total	%
0-1	71	49	120	24.0
1-2	67	89	156	31.3
2-3	60	36	96	19.2
3-4	17	18	35	7.0
4-5	21	11	32	6.4
5-6	15	7	22	4.4
6-7	11	2	13	2.6
7-8	1	4	5	1.0
8-9	9	3	12	2.4
9-10	2	1	3	0.6
10-11	1	1	2	0.4
11-12	2		2	0.4
12-13	1		1	0.2
Total	278	221	499	100

Table 2. Estimated age and sex ratio of Zone 2 bobcats, 2005-2006 hunting season

Age	Males	Females	Total	%
0-1	17	9	26	20.5
1-2	17	10	27	21.3
2-3	23	8	31	24.4
3-4	12	10	22	17.3
4-5	3	3	6	4.7
5-6	5	2	7	5.5
6-7		2	2	1.6
7-8	2		2	1.6
8-9	2		2	1.6
9-10		1	1	0.8
10-11	1		1	0.8
Total	82	45	127	100

Table 3. Estimated age and sex ratio of Zone 2 bobcats, 2005-2006 trapping season

Age	Males	Females	Total	%
0-1	4	4	8	17.0
1-2	7	4	11	23.4
2-3	6	6	12	25.5
3-4	2	8	10	21.3
4-5	1		1	2.1
5-6	2		2	4.3
7-8	1	1	2	4.3
11-12	1		1	2.1
Total	24	23	47	100

Table 4. Estimated age and sex ratio of Zone 2 bobcats, 2005-2006 season

Age	Males	Females	Total	%
0-1	21	13	34	19.5
1-2	24	14	38	21.8
2-3	29	14	43	24.7
3-4	14	18	32	18.4
4-5	4	3	7	4.0
5-6	7	2	9	5.2
6-7		2	2	1.1
7-8	3	1	4	2.3
8-9	2		2	1.1
9-10		1	1	0.6
10-11	1		1	0.6
11-12	1		1	0.6
Total	106	68	174	100

Table 5. Estimated age and sex ratio of Zone 1 and 2 bobcats, 2005-2006 season

Age	Males	Females	Total	%
0-1	92	62	154	22.9
1-2	91	103	194	28.8
2-3	89	50	139	20.7
3-4	31	36	67	10.0
4-5	25	14	39	5.8
5-6	22	9	31	4.6
6-7	11	4	15	2.2
7-8	4	5	9	1.3
8-9	11	3	14	2.1
9-10	2	2	4	0.6
10-11	2	1	3	0.4
11-12	3		3	0.4
12-13	1		1	0.1
Total	384	289	673	100

Figure 1. Bobcat Management Units in Michigan

