

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
WILDLIFE DIVISION
LANSING, MICHIGAN 48909

Report No. 3131
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BOBCAT SURVEY - 1989-90

by

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Introduction

In order to allow export of bobcat (Felis rufus) pelts under the Convention on International Trade in Endangered Species (CITES) the Fish and Wildlife Service compiles data on the harvest and status of bobcats. This documentation is necessary to verify the stability of populations and to allow continued harvest and exportation of pelts. This is the tenth consecutive year of the bobcat survey in Michigan (Cooley et al. 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989).

During the winter of 1989-90, the Wildlife Division requested that trappers and hunters submit bobcat skulls to the Department of Natural Resources for examination. This allowed Division personnel to age and sex the harvested bobcats by canine tooth examination. This information is summarized for bobcats harvested in the 2 northern Regions (Appendices I and II) and bobcats harvested from unspecified areas (Appendix III).

Materials and Methods

The lower jaw was removed from each skull and a lower canine was extracted for examination. Measuring the maximum root width and thickness of the canine allowed for sex determination (Friedrich et al. 1983) and age was estimated by cementum layer counts (Crowe 1975).

Results and Discussion

Region I

The number of samples collected this year was down markedly from last year (35 in 1989-90, 142 in 1988-89) and the total harvest was down 35.4%. The sex ratio of bobcats examined from Region I (Table 1) was 250:100 (25:10) males to females. This was the eighth time in 10 years of data collection that the ratio favored males (Cooley et al. 1981, 1982, 1983, 1986, 1987, 1988, 1989) and also agrees with the data of Erickson (1955) and Hoppe (1980). The percentage of

young-of-the-year (22.9) was down from last year (36.6%) and well below the average (39%) of all the years bobcats have been examined. The age classes 0-3 years made up 80% of the total animals submitted however, being consistent with previous data. The 1-2 year old and 2-3 year old age classes occurred most frequently in the sample.

Region II

The number of samples collected from Region II this year was markedly down from last year (42 in 1989-90, 158 in 1988-89) and from past years. The total harvest was down 54.9%. The sex ratio of Region II bobcats (Table 2) was 200:100 (28:14) males to females. This ratio was higher than last year's data and was the highest ratio since 1982 (285:100). The data was consistent with past year's data, in that, males were predominant in the samples collected. The percentage of young-of-the-year (21.4%) was down slightly from last year's data (25.3%) and was the lowest since 1985 (17.4%). The percentage was below the average (27%) of all of the years bobcats have been examined. The age classes 0-3 years made up 64.3% of the total animals submitted, down from last year's figures (72.2%) and the lowest total since 1985 (39.1%). The yearling, young of-the-year, and 3-4 year age classes occurred most frequently in the sample.

Regions I and II

Changes in regulations for the 1989-90 season were reflected in the reduced harvest and the smaller number of carcasses made available for examination. The bag limit was reduced to 1 bobcat and it was not mandatory to give the animal's head to the DNR for examination. The bobcat harvest was reduced markedly from 500 (Region I = 229, Region II = 268 animals harvested) in 1988-89 to 269 (Region I = 148, Region II = 121 animals harvested) in 1989-90. The number of skulls submitted dropped from 304 in 1988-89 to 79 in 1989-90. The combined totals of the submitted skulls from both regions (Table 4) exhibited a distribution in the age classes and sex ratios consistent with past years' data.

Sex ratios calculated by tooth measurement in previous years have not differed significantly from the actual sex ratios of the samples (Friedrich et al. 1983 and Unpublished Data). However, the differences suggest that the calculated values could be adjusted by +4.4% for juvenile males, -4.5% for juvenile females, -1.5% for adult males, and +1.7% for adult females.

Management Application

The collection and examination of bobcat teeth provided additional baseline information. Using dental measurements for sex determination has allowed for easier data collection. These data, in conjunction with future information will allow the Wildlife Division to develop a population model and help assure Michigan trappers and hunters the opportunity to harvest and export this furbearing species in the future.

Acknowledgements

We thank the bobcat trappers and hunters for their cooperation and the biologists and technicians for gathering the bobcat heads and submitting them for examination. Thanks is also extended to Myra Fraidenburg for assisting in the preparation of this report.

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Table 1. Estimated age and sex ratio of Region I bobcats

Age	Number	Male	Female	Percent of Total
0-1	8	5	3	22.9
1-2	11	6	5	31.4
2-3	9	8	1	25.7
3-4	2	1	1	5.7
4-5	3	3	0	8.6
5-6	1	1	0	2.9
8-9	1	1	0	2.9
Total	35	25	10	100

Table 2. Estimated age and sex ratio of Region II bobcats.

Age	Number	Male	Female	Percent of Total
0-1	9	6	3	21.4
1-2	12	7	5	28.6
2-3	6	4	2	14.3
3-4	9	7	2	21.4
4-5	4	2	2	9.5
6-7	1	1	0	2.4
7-8	1	1	0	2.4
Total	42	28	14	100

Table 3. Estimated age and sex ratio of bobcats from unspecified Region.

Age	Number	Male	Female
0-1	1	0	1
3-4	1	1	0
Total	2	1	1

Table 4. Estimated age and sex ratio of bobcats from Regions I and II.

Age	Number	Male	Female	Percent of Total
0-1	18	11	7	22.8
1-2	23	13	10	29.1
2-3	15	12	3	19.0
3-4	12	9	3	15.2
4-5	7	5	2	8.9
5-6	1	1	0	1.3
6-7	1	1	0	1.3
7-8	1	1	0	1.3
8-9	1	1	0	1.3
Total	79	54	25	100

APPENDIX I.

1989-90 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION			DATE			SEAL	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.	NUMBER				
1								8900014	M	1.5		
1	Baraga	48N	34W	15	11	21	89	8900042			Hunt	
1	Baraga	49N	33W	05	12	12	89	8900044			Road Kill	
1	Gogebic	46N	43W	31	2	16	90	8900074	M	0.5	Trap	
1	Gogebic	45N	41W	18	12	26	89	8900071	M	0.5	Trap	
1	Gogebic	46N	44W	13	1	3	90	8900079	F	1.5	Trap	
1	Gogebic	46N	41W	30	2	5	90	8900073	F	3.5	Trap	
1	Gogebic	47N	45W	33	12	25	89	8900072			Trap	
1	Houghton	47N	37N	08	1	30	90	8900011	M	2.5	Hunt	
1	Houghton	48N	36W	25	12	8	89	8900043	M	2.5	Trap	
1	Houghton	56N	33W	01	11	11	89	8900031			Trap	
1	Houghton	48N	35W	05	12	10	89	8900051			Trap	
1	Houghton	48N	37W	11	11	5	89	8900019			Trap	
1	Houghton	48N	37W	11	11	5	89	8900020			Trap	
1	Ontonagon	48N	41W	04	2	25	90	8900075			Trap	
1	Ontonagon	49N	41W	31	2	9	90	8900260			Hunt	
1	Ontonagon	48N	41W	14	11	23	89	8901212			Hunt	
1	Ontonagon	50N	37W	35	11	16	89	8900041			Hunt	
1	Ontonagon	48N	37W	25	12	22	89	8900018			Trap	
2	Dickinson	42N	28W	27	10	28	89	8900111	M	0.5	Trap	
2	Dickinson	42N	28W	12	11	26	89	8900115	M	1.5	Hunt	
2	Dickinson	44N	29W	22	11	25	89	8900182	M	2.5	Hunt	
2	Dickinson	40N	28W	20	2	22	90	8900196			Trap	
2	Dickinson				2	28	90	8900367			Hunt	
2	Dickinson	44N	29W	29	2	17	90	8900200			Trap	
2	Dickinson	44N	30W	13	2	13	90	8900195			Trap	
2	Dickinson	44N	29W	33	2	9	90	8900194			Trap	
2	Dickinson	43N	28W	12	2	14	90	8900364			Trap	
2	Dickinson	42N	30W	32	1	20	90	8900192			Trap	
2	Dickinson	44N	28W	33	1	12	90	8900740			Hunt	
2	Dickinson	42N	28W	27	10	26	89	8900112			Trap	
2	Dickinson				11	16	89	8900440			Trap	
2	Dickinson	41N	30W	01	11	21	89	8900114			Trap	
2	Dickinson	41N	29W	01	11	27	89	8900116			Hunt	
2	Iron	44N	31W	16	10	23	89	8900181	M	2.5	Trap	
2	Iron	45N	36W	36	12	11	89	8900224	M	4.5	Trap	
2	Iron	44N	32W	15	12	23	89	8900225	F	1.5	Trap	
2	Iron	44N	30W	22	2	28	90	8900301			Hunt	
2	Iron	42N	32W	34	1	28	90	8900193			Trap	
2	Iron	41N	31W	03	1	12	90	8900191			Hunt	
2	Iron	44	32W	13	1	6	90	8900228			Trap	
2	Iron	43N	31W	30	11	24	89	8900183			Trap	
2	Iron	45N	32W	32	10	26	89	8900190			Hunt	
2	Iron	43N	31W	27	1	6	90	8900186			Hunt	
2	Iron	44N	32W	10	12	31	89	8900227			Trap	
2	Iron	44N	31W	33	12	30	89	8900226			Trap	
2	Iron	44N	31W	02	11	29	89	8900346			Trap	
2	Iron	44N	34W	19	11	3	89	8900230			Trap	
2	Iron	44N	35W	03	11	25	89	8901211			Hunt	
2	Iron	44N	31W	09	11	17	89	8900291			Hunt	
2	Iron	45N	31W	21	11	19	89	8800151			Trap	
2	Iron	46N	34W	20	11	14	89	8900221			Trap	
2	Menominee	38N	26W	04	1	6	90	8900358	M	0.5	Trap	
2	Menominee	40N	25W	33	12	13	89	8900351	M	1.5	Trap	
2	Menominee	40N	25W	34	12	30	89	8900355	F	1.5	Trap	
2	Menominee	39N	25W	04	2	24	90	8900365			Trap	
2	Menominee	37N	26W	04	2	1	90	8900144			Trap	

APPENDIX I.

1989-90 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION Twp.Rng.Sec	DATE Mo.Da.Yr.	SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
2	Menominee	36N 26W 12	11 16 89	8900143			Hunt	
2	Menominee	37N 28W 10	10 26 89	8900142			Trap	
2	Menominee	35N 26W 01	10 29 89	8900141			Trap	
2	Menominee	36N 28W 23	2 1 90	8900146			Trap	
2	Menominee	36N 28W 23	2 2 90	8900147			Trap	
2	Menominee	37N 26W 04	2 1 90	8900145			Road Kill	
2	Menominee	38N 28W 16	2 19 90	8900199			Trap	
2	Menominee	40N 25W 33	2 11 90	8900363			Trap	
2	Menominee	40N 25W 33	2 11 90	8900362			Trap	
2	Menominee	39N 29W 31	11 29 89	8900184			Trap	
2	Menominee	38N 28W 06	12 31 89	8900185			Trap	
2	Menominee	39N 27W 09	11 18 89	8900342			Hunt	
2	Menominee	38N 28W 15	11 26 89	8900188			Hunt	
2	NA		10 28 89	8900189			Road Kill	
3				NA	F	1.5		
3	Alger	46N 22W 31	10 28 89	8900001			Trap	
3	Alger	45N 21W 06	11 4 89				Trap	PASSBOOK # 1767388
3	Alger	46N 21W 02	2 18 90	8901116			Hunt	
3	Alger	46N 21W 02	2 27 90	8901115			Hunt	
3	Delta	42N 21W 27	12 11 89	8900348	M	1.5	Trap	M & F REPRO. ORGANS BOTH PRESENT
3	Delta	39N 23W 06	2 26 90	8900366			Hunt	
3	Delta	39N 23W 06	2 4 90	8900360			Trap	
3	Delta	40N 18W 33	2 6 90	8900336			Trap	
3	Delta	38N 21W 06	2 6 90	8900361			Trap	
3	Delta	39N 23W 08	1 15 90	8900359			Trap	
3	Delta	42N 22W 24	12 17 89	8901120			Hunt	
3	Delta	42N 23W 22	12 19 89	8900354			Trap	
3	Delta	39N 21W 25	12 31 89	8701016			Hunt	
3	Delta	40N 20W 32	12 29 89	8701015			Hunt	
3	Delta	39N 21W 12	12 30 89	8701017			Hunt	
3	Delta	42N 22W 07	12 15 89	8900352			Trap	
3	Delta	41N 24W 31	11 18 89	8900344			Hunt	
3	Delta	41N 21W 19	11 19 89	8900343			Hunt	
3	Delta	42N 23W 34	11 21 89	8900345			Hunt	
3	Delta	38N 23W 30	11 29 89	8900349			Trap	
3	Marquette	44N 26W 20	12 12 89	8900326	M	0.5	Trap	
3	Marquette	42N 24W 16	12 2 89	8900347	M	2.5	Trap	
3	Marquette	46N 26W 16	10 25 89	8900330	M	3.5	Trap	
3	Marquette	45N 29W 18	1 18 90	8900855	M	4.5	Trap	
3	Marquette	44N 26W 06	11 28 89	8900323	F	0.5	Illegal	
3	Marquette	47N 24W 15	12 6 89	8900320	F	2.5	Trap	
3	Marquette	47N 29W 08	11 1 89	8900002			Trap	
3	Marquette	48N 28W 33	2 25 90	8900333			Trap	
3	Marquette	43N 25W 11	11 1 89	8900353			Trap	
3	Marquette	43N 25W 04	1 2 90	8900356			Trap	
3	Marquette	43N 25W 04	1 6 90	8900357			Trap	
3	Marquette	46N 26W 32	12 14 89	8900325			Trap	
3	Marquette	42N 24W 27	11 19 89	8900350			Hunt	
3	Marquette	48N 29W 31	11 1 89	8900331			Trap	
3	Marquette		11 18 89	8900329			Illegal	
3	Marquette	44N 26W 06	11 28 89	8900322			Hunt	
3	Marquette	45N 27W 28	11 16 89	8900321			Hunt	
3	Marquette	48N 30W 16	12 3 89	8900334			Trap	
3	Marquette	48N 30W 16	11 16 89	8900335			Trap	
3	Marquette	45N 26W 21	11 22 89	8900324			Trap	
3	Marquette	45N 24W 28	5 22 90	8900327			Road Kill	
4	Alger	49N 13W 06	1 19 90	8900908	M	5.5	Hunt	

APPENDIX I.

1989-90 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION Twp.Rng.Sec	DATE Mo.Da.Yr.	SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
4	Alger	48N 13W 30	11 25 89	8900881	F	0.5	Trap	TOOTH CROWN CHIPS ONLY, FIELD F
4	Chippewa	47N 05W 21	2 8 90	8900455	M	1.5	Hunt	
4	Chippewa	46N 03W 24	10 28 89	8900890	M	1.5	Trap	
4	Chippewa	42N 03E 26	2 21 90	8900456	M	2.5	Hunt	
4	Chippewa	44N 01E 17	1 8 90	8900454	M	2.5	Hunt	UPPER CANINE
4	Chippewa	46N 06W 14	10 29 89	8901244	M	2.5	Trap	
4	Chippewa	46N 06W 33	11 4 89	8901041	M	4.5	Trap	
4	Chippewa	42N 02E 19	2 12 90	8800809	F	0.5	Hunt	INSUFFICIENT TOOTH ROOT, FIELD F
4	Chippewa	44N 01E 24	11 5 89	8900451	F	1.5	Trap	
4	Chippewa	46N 01E 30	2 15 90	8900962			Trap	
4	Chippewa	40N 17W 15	2 27 90	8900433			Hunt	
4	Chippewa	45N 01E 28	2 28 90	8900458			Hunt	
4	Chippewa	42N 01W 05	2 28 90	8900459			Hunt	
4	Chippewa	45N 02W 18	2 25 90	8900457			Hunt	
4	Chippewa	47N 05W 18	2 10 90	8901047			Trap	
4	Chippewa	46N 06W 22	11 28 89	8900690			Hunt	
4	Chippewa	44N 06W 23	11 26 89	8900971			Hunt	
4	Chippewa	42N 02E 04	6 17 90	8900936			Road Kill	
4	Chippewa	44N 02W 29	1 21 90	8900641			Trap	
4	Chippewa	45N 02W 25	12 17 89	8901010			Trap	
4	Luce	46N 11W 15	12 4 89	8900970	M	8.5	Hunt	
4	Luce	46N 10W 15	2 27 90	8901140			Hunt	
4	Luce	46N 10W 22	10 30 89	8900610			Trap	
4	Luce	47N 12W 29	11 15 89	8900609			Trap	
4	Luce	46N 12W 36	11 20 89	8900608			Trap	
4	Luce	45N 11W 20	11 23 89	8900441			Hunt	
4	Mackinac	43N 02W 05	12 31 89	8901180	F	0.5	Trap	
4	Mackinac	43N 05W 17	12 27 89	8900731			Trap	
4	Mackinac	42N 07W 05	2 13 90	8900445			Trap	
4	Mackinac	43N 08W 24	1 8 90	8900444			Hunt	
4	Mackinac	43N 10W 11	1 8 90	8900443			Trap	
4	Mackinac	42N 04W 28	12 26 89	8900442			Hunt	
4	Mackinac	42N 12W 25	11 12 89	8701014			Hunt	
4	Mackinac	42N 02E 20	11 15 89	8900452			Hunt	
4	Mackinac	42N 01W 12	11 18 89	8900453			Hunt	
4	Schoolcraft	40N 17W 34	1 26 90	8900432			Hunt	
4	Schoolcraft	43N 13W 28	2 5 90	8900437			Hunt	
4	Schoolcraft	41N 18W 10	1 18 90	8900431			Hunt	
4	Schoolcraft	45N 13W 35	1 10 90	8900607			Trap	
4	Schoolcraft	39N 17W 06	10 26 89	8900341			Trap	
4	Schoolcraft	42N 14W 02	11 29 89	8900438			Hunt	
4	Schoolcraft	42N 17W 34	11 27 89	8900439			Hunt	
4	Schoolcraft	46N 16W 01	2 18 90	8901014			Hunt	

APPENDIX II.

1989-90 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION Twp.Rng.Sec	DATE Mo.Da.Yr.	SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
5	Alpena	31N 08E 09	2 17 90	8900710	M	0.5	Hunt	TOOTH CROWN CHIPS ONLY, FIELD M
5	Alpena	30N 08E 05	2 5 90	8900685	M	1.5	Hunt	
5	Alpena	29N 05E 11	2 25 90	8901251	M	1.5	Hunt	VERY PARTIAL, FIELD M
5	Alpena	31N 07E 06	2 4 90	8900689	M	2.5	Hunt	
5	Alpena	30N 08E 34	1 14 90	8900682	M	3.5	Hunt	
5	Alpena	31N 07E 05	2 3 90	8900684	M	3.5	Hunt	
5	Alpena	32N 07E 33	2 27 90	8900701	F	0.5	Hunt	INSUFFICIENT TOOTH ROOT, FIELD F
5	Alpena	32N 08E 32	2 18 90	8900687	F	1.5	Hunt	
5	Alpena	30N 08E 32	2 5 90	8901022	F	3.5	Hunt	
5	Alpena	30N 05E 05	2 10 90	8900688			Hunt	
5	Alpena	32N 06E 13	2 26 90	8900702			Hunt	
5	Alpena	32N 07E 26	2 15 90	8900704			Hunt	
5	Alpena	33N 07E 12	2 24 90	8900706			Hunt	
5	Alpena	30N 06E 04	2 25 90	8900707			Hunt	
5	Alpena	30N 07E 26	2 25 90	8900708			Hunt	
5	Alpena	32N 07E 23	2 13 90	8900709			Hunt	
5	Alpena	30N 06E 31	2 18 90	8901025			Hunt	
5	Alpena	30N 07E 12	1 4 90	8900681			Hunt	
5	Alpena	29N 06E 23	2 28 90	8900919			Hunt	
5	Alpena	29N 06E 10	2 26 90	8900920			Hunt	
5	Antrim	29N 08W 10	1 21 90	8900884	F	4.5	Hunt	AGE +/-1
5	Antrim	31N 07W 36	2 6 90	8900886			Hunt	
5	Antrim	29N 05W 24	2 18 90	8900735			Hunt	
5	Antrim	30N 06W 05	2 17 90	8900736			Hunt	
5	Charlevoix	33N 05W 24	1 7 90	8901179	M	3.5	Hunt	
5	Charlevoix	33N 05W 25	2 18 90	8900737			Hunt	
5	Charlevoix	33N 07W 26	1 27 90	8900734			Hunt	
5	Charlevoix	32N 05W 01	1 7 90	8900733			Hunt	
5	Cheboygan	34N 01W 36	2 24 90	8900934	M	0.5	Hunt	
5	Cheboygan	33N 01W 06	1 6 90	8900969	M	1.5	Hunt	
5	Cheboygan	33N 01W 24	2 4 90	8901021	M	2.5	Hunt	
5	Cheboygan	35N 02W 29	1 13 90	8901245	M	6.5	Hunt	
5	Cheboygan	34N 01W 31	2 25 90	8900935	F	1.5	Hunt	
5	Cheboygan	35N 03W 28	1 29 90	8800808	F	3.5	Hunt	
5	Cheboygan	37N 01W 29	1 28 90	8900730			Hunt	
5	Cheboygan	37N 03W 06	2 26 90	8900716			Hunt	
5	Cheboygan	34N 01E 34	1 29 90	8900717			Hunt	
5	Cheboygan	33N 01E 33	2 18 90	8900654			Hunt	
5	Cheboygan	35N 02W 24	1 14 90	8900719			Hunt	
5	Cheboygan	35N 01E 35	1 2 90	8900660			Hunt	
5	Cheboygan	33N 03W 07	1 2 90	8900720			Hunt	
5	Cheboygan	36N 02W 06	1 15 90	8900711			Hunt	
5	Cheboygan	34N 01E 16	1 20 90	8900712			Hunt	
5	Emmet	37N 05W 34	1 30 90	8900718			Hunt	
5	Emmet	38N 04W 34	2 4 90	8901248			Hunt	
5	Montmorency	31N 02E 35	2 16 90	8900652	M	0.5	Hunt	
5	Montmorency	31N 01E 28	1 14 90	8901046	M	0.5	Hunt	CARCASS - JUV. M
5	Montmorency	31N 02E 20	2 11 90	8901023	M	1.5	Hunt	
5	Montmorency	29N 03E 11	2 25 90	8901162	M	3.5	Hunt	
5	Montmorency	32N 03E 09	2 27 90	8901252	M	4.5	Hunt	UPPER CANINE
5	Montmorency	32N 02E 14	2 24 90	8901168			Hunt	
5	Montmorency	31N 01E 26	2 19 90	8900750			Hunt	
5	Montmorency	31N 03E 34	2 17 90	8900653			Hunt	
5	Montmorency	31N 02E 20	2 11 90	8901024			Hunt	
5	Montmorency	31W 01E 20	2 4 90	8901247			Hunt	
5	Montmorency	32N 03E 34	2 4 90	8900658			Hunt	
5	Montmorency	29N 02E 33	1 22 90	8900659			Hunt	

APPENDIX II.

1989-90 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION Twp.Rng.Sec	DATE Mo.Da.Yr.	SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
5	Montmorency	31N 03E 10	2 25 90	8901015			Hunt	
5	Otsego	30N 01W 05	2 12 90	8800810	M	2.5	Hunt	
5	Otsego	29N 01W 22	1 27 90	8901007	F	0.5	Hunt	
5	Otsego	29N 04W 31	2 23 90	8900887			Hunt	
5	Otsego	31N 01W 15	2 17 90	8901117			Hunt	
5	Otsego	29N 04W 31	2 7 90	8900739			Hunt	
5	Otsego	30N 06W 05	1 5 90	8900732			Hunt	
5	Otsego	29N 02W 15	2 16 90	8900738			Hunt	
5	Otsego	31N 01W 09	1 14 90	8900883			Hunt	
5	Otsego	31N 01W 05	2 4 90	8900885			Hunt	
5	Otsego	32N 02W 12	1 24 90	8901231			Hunt	
5	Presque Isle	35N 02E 01	1 27 90	8900676	M	0.5	Hunt	
5	Presque Isle	36N 02E 15	2 27 90	8900677	M	1.5	Hunt	UPPER CANINE
5	Presque Isle	35N 03E 01	2 28 90	8900678	M	2.5	Hunt	UPPER CANINE
5	Presque Isle	36N 03W 32	2 10 90	8900651	M	3.5	Hunt	UPPER CANINE
5	Presque Isle	34N 04E 33	2 25 90	8900655	M	7.5	Hunt	UPPER CANINE
5	Presque Isle	35N 06E 29	2 4 90	8900683	F	2.5	Hunt	AGE +/-1
5	Presque Isle	35N 02E 14	1 20 90	8901246	F	4.5	Hunt	
5	Presque Isle		3 20 90	8900691			Road Kill	
5	Presque Isle	33N 06E 25	2 3 90	8900686			Hunt	
5	Presque Isle	30N 06E 04	2 20 90	8900705			Hunt	
5	Presque Isle	34N 02E 06	2 4 90	8401096			Hunt	
5	Presque Isle	35N 04E 25	1 12 90	8901009			Hunt	
6	Grand Traverse	26N 12W 15	11 8 89	8900853	F	1.5	Road Kill	
6	Kalkaska	25N 07W 12	11 13 89	8900852	F	1.5	Illegal	
6	Kalkaska	25N 07W 26	1 23 90	8901118			Hunt	
6	Kalkaska	28N 08W	1 14 90	8900882			Hunt	
6	Kalkaska	26N 06W 21	1 6 90	8901221			Hunt	
6	Lake	19N 11W	2 27 90	8800596			Road Kill	
6	Leelanau	30N 12W 29	8 27 89	8900851			Road Kill	
6	Manistee	22N 14W 28	10 28 89	8901270			Road Kill	
6	Missaukee	23N 05W 17	1 29 90	8900933	M	0.5	Hunt	
6	Missaukee	23N 08W 13	1 8 90	8900931			Hunt	
6	NA		9 7 89	8901269			Road Kill	
6	NA		11 3 89				Illegal	
6	Osceola	20N 07W 14	1 27 90	8900877	M		Hunt	
6	Osceola	20N 09W 03	2 21 90				Road Kill	CROWNS ONLY, FIELD M
6	Osceola	18N 07W 34	11 25 89	8900871			Illegal	
6	Wexford	24N 11W 03	1 1 90	8900854	F	1.5	Hunt	
6	Wexford	22N 10W 26	1 27 90	8900894			Hunt	
7				NA	M	1.5		
7				NA	M	3.5		
7	Alcona	27N 09W 22	1 1 90	8900911	M	4.5	Hunt	
7	Alcona	25N 05E 06	1 14 90	8901113			Hunt	
7	Alcona	25N 06E 09	1 22 90	8901161			Hunt	
7	Alcona	27N 08E 33	1 8 90	8900914			Hunt	
7	Alcona	25N 05E 15	1 13 90	8901013			Hunt	
7	Arenac	19N 03E 14	1 1 90	8900972			Hunt	
7	Clare	19N 06W 17	1 8 90	8901170	F	1.5	Hunt	
7	Clare	20N 05W 34	1 23 90	8901031			Hunt	
7	Clare	20N 03W 33	1 26 90	8900993			Road Kill	
7	Clare	20N 03W 02	1 24 90	8900967			Hunt	
7	Clare	19N 06W 31	1 13 90	8900892			Hunt	
7	Clare	19N 06W 20	1 22 90	8900991			Hunt	
7	Clare	19N 06W 05	1 21 90	8900893			Hunt	
7	Clare	18N 05W 34	1 10 90	8900968			Hunt	
7	Clare	18N 07W 14	1 1 90	8901111			Hunt	

APPENDIX II.

1989-90 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION			DATE			SEAL	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
7	Clare	17N	04W	11	1	15	90	8900964			Hunt	
7	Crawford	25N	04W	01	9	3	89	8900932			Road Kill	
7	Gladwin	18N	02W	08	1	31	90	8900966	M	0.5	Road Kill	
7	Gladwin	18N	03E	33	1	4	90	8900973	M	1.5	Hunt	
7	Gladwin	20N	02W	01	1	1	90	8900961	F	0.5	Hunt	
7	Gladwin	20N	02E	07	1	1	90	8900962			Hunt	
7	Ogemaw	23N	03E	27	1	8	90	8900906			Hunt	
7	Ogemaw	24N	02E	25	1	13	90	8901012			Hunt	
7	Oscoda	26N	01E	23	1	21	90	8901008			Hunt	
7	Roscommon	23N	03W	22	1	27	90	8901232	M	3.5	Hunt	
7	Roscommon	22N	02W	19	1	25	90	8900965	F	1.5	Hunt	
7	Roscommon	23N	02W	33	1	7	90	8901576	F	2.5	Hunt	
7	Roscommon	21N	01W	07	1	14	90	8900872			Hunt	
7	Roscommon	21N	02W	25	1	21	90	8901114			Hunt	
7	Roscommon	23N	01W	02	1	15	90	8901112			Hunt	
7	Roscommon	24N	02W	18	1	3	90	8901119			Hunt	
7	Roscommon	22N	02W	31	1	7	90	8900963			Hunt	
7	Roscommon	21N	01W	29	1	21	90	8900907			Hunt	
7	Roscommon	22N	02W	35	1	30	90	8901001			Hunt	
7	Roscommon	24N	01W	18	1	30	90	8901002			Hunt	
7	Roscommon	24N	01W	13	1	12	90	8901011			Hunt	

APPENDIX III.

1989-90 BOBCAT DATA - REGION UNKNOWN

DIST	COUNTY	LOCATION Twp.Rng.Sec	DATE Mo.Da.Yr.	SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
				NA	M	3.5		
				NA	F	0.5		