

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

Report No. 3141
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BOBCAT SURVEY - 1990-91

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 eleventh consecutive year of the bobcat survey in Michigan (Cooley et al. 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990).

During the winter of 1990-91, 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).

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 (32 in 1990-91, 35 in 1989-90) and the total harvest this year was nearly the same as last year (157 in 1990-91, 148 in 1989-90). The sex ratio of bobcats examined from Region I (Table 1) was 45:100 (10:22) males to females. This was the third time in 11 years of data

collection that the ratio favored females (Cooley et al. 1984 and 1985). The percentage of young-of-the-year (28.1%) was up slightly from last year (22.9%) but below the average (37%) of all the years bobcats have been examined. The age classes 0-3 years made up 75% of the total animals submitted, being consistent with previous data. The 0-1 year old and 1-2 year old age classes occurred most frequently in the sample.

Region II

The number of samples collected from Region II increased (62 in 1990-91, 42 in 1989-90), and the total harvest was up 49.6% (181 in 1990-91, 121 in 1989-90) this year. The sex ratio of Region II bobcats (Table 2) was 121:100 (34:28) males to females. 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 (17.7%) was down slightly from last year's data (21.4%) and was the lowest since 1985 (17.4%). The percentage was below the average (26.9%) of all of the years bobcats have been examined. The age classes 0-3 years made up 67.7% of the total animals submitted, up slightly from last year's figures (64.3%). The yearling, young-of-the-year, and 2-3 year age classes occurred most frequently in the sample.

Regions I and II

The changes in regulations that occurred in the 1989-90 season, were still in affect in 1990-91. The regulations included a bag limit of 1 bobcat and voluntary submission of the animal's head to the DNR for examination. The bobcat harvest increased from 269 in 1989-90 to 338 in 1990-91. The number of skulls submitted raised slightly from 79 in 1989-90 to 94 in 1990-91 (a 28% compliance). The combined totals of the submitted skulls from both regions (Table 3) exhibited a distribution in the age classes and sex ratios consistent with past years' data.

Sex ratios calculated by tooth measurement in a previous study did not differ significantly from sex ratios determined by physical examination (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 Wildlife Division personnel 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.

Literature Cited

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Table 1. Estimated age and sex ratio of Region I bobcats, 1990-91 season.

Age	Number	Male	Female	Percent of Total
0-1	9	4	5	28.1
1-2	10	2	8	31.3
2-3	5	1	4	15.6
3-4	5	2	3	15.6
4-5	2	1	1	6.3
5-6	1	0	1	3.1
Total	32	10	22	100

Table 2. Estimated age and sex ratio of Region II bobcats, 1990-91 season.

Age	Number	Male	Female	Percent of Total
0-1	11	5	6	17.7
1-2	20	13	7	32.3
2-3	11	5	6	17.7
3-4	4	1	3	6.5
4-5	6	3	3	9.7
5-6	4	4	0	6.5
6-7	2	1	1	3.2
7-8	2	1	1	3.2
9-10	2	1	1	3.2
Total	62	34	28	100

Table 3. Estimated age and sex ratio of bobcats from Regions I and II, 1990-91.

Age	Number	Male	Female	Percent of Total
0-1	20	9	11	21.3
1-2	30	15	15	31.9
2-3	16	6	10	17.0
3-4	9	3	6	9.6
4-5	8	4	4	8.5
5-6	5	4	1	5.3
6-7	2	1	1	2.1
7-8	2	1	1	2.1
9-10	2	1	1	2.1
Total	94	44	50	100

APPENDIX I.

1990-91 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION	DATE	SEAL	SEX	AGE	METHOD	COMMENTS
		Twp. Rng. Sec	Mo. Da. Yr.	NUMBER				
1	Baraga	47N 35W 35	11 4 90	9000011			Trapping	
1	Baraga	48N 34W 26	2 2 91	9000023			Trapping	
1	Baraga	51N 30W 15	10 31 90	9000072			Trapping	
1	Gogebic	46N 43W 31	1 4 91	9000032			Trapping	
1	Gogebic	48N 49W 10	2 28 91	9000034			Hunting	
1	Houghton	47N 35W 09	12 16 90	9000013	F	1.5	Trapping	
1	Houghton	47N 37W 03	11 11 90	9000012			Trapping	
1	Houghton	48N 37W 11	11 7 90	9000022			Trapping	
1	Ontonagon	46N 39W 09	12 2 90	9000212	F	0.5	Hunting	
1	Ontonagon	48N 38W 14	11 11 90	9000021	F	0.5	Trapping	
1	Ontonagon	46N 39W 09	11 28 90	9000031	F	1.5	Hunting	
1	Ontonagon	48N 39W 20	12 30 90	9000014	F	1.5	Trapping	
1	Ontonagon	47N 40W 17	11 18 90	9000992			Hunting	
1	Ontonagon	49N 42W 21	2 4 91	9000033			Trapping	
2	Dickinson		NA		M	0.5		
2	Dickinson	41N 27W 12	11 16 90	9000165	M	0.5	Hunting	
2	Dickinson	42N 28W 24	11 16 90	9000180	M	0.5	Hunting	
2	Dickinson	43N 28W 07	1 6 91	9000296	M	0.5	Trapping	
2	Dickinson	40N 28W 25	1 5 91	9000065	M	1.5	Trapping	
2	Dickinson	41N 29W 20	1 26 91	9000069	F	0.5	Trapping	
2	Dickinson	41N 30W 15	10 27 90	9000061	F	1.5	Trapping	
2	Dickinson	42N 28W 14	11 13 90	9000163	F	1.5	Trapping	
2	Dickinson	43N 28W 34	10 26 90	9000161	F	2.5	Trapping	
2	Dickinson	41N 27W 18	11 2 90	9000162	F	3.5	Trapping	
2	Dickinson	43N 29W 02	11 18 90	9000166	F	3.5	Hunting	
2	Dickinson	41N 27W 21	2 16 91	9000181			Trapping	
2	Dickinson	41N 28W 35	11 17 90	9000080			Hunting	
2	Dickinson	41N 29W 12	3 1 91	9000071			Hunting	
2	Dickinson	41N 29W 23	1 23 91	9000068			Trapping	
2	Dickinson	42N 27W 31	11 20 90	9000290			Hunting	
2	Dickinson	42N 28W 14	11 18 90	9000164			Hunting	
2	Dickinson	42N 28W 26	2 24 91	9000182			Trapping	
2	Dickinson	42N 29W 33	12 7 90	9000167			Hunting	
2	Dickinson	42N 30W 04	2 3 91	9000192			Trapping	
2	Dickinson	43N 28W 11	3 1 91	9001004			Hunting	
2	Dickinson	43N 28W 06	11 24 90	9001091			Hunting	
2	Dickinson	43N 30W 36	2 4 91	9000177			Trapping	
2	Dickinson	44N 27W 18	1 15 91	9000615			Hunting	
2	Dickinson	44N 27W 10	11 18 90	9000274			Hunting	
2	Dickinson	44N 28W 30	3 1 91	9001007			Hunting	
2	Dickinson	44N 29W 15	3 1 91	9001006			Hunting	
2	Dickinson	44N 29W 15	3 1 91	9001005			Hunting	
2	Dickinson	44N 29W 03	1 20 91	9000004			Hunting	
2	Dickinson	44N 30W 18	1 4 91	9000176			Trapping	
2	Iron	44N 35W 23	12 5 90	9000174	M	4.5	Trapping	
2	Iron	44N 35W 08	12 30 90	9000175	F	1.5	Trapping	
2	Iron	44N 32W 31	11 25 90	9000171	F	2.5	Hunting	
2	Iron	46N 35W 12	12 4 90	9000213	F	2.5	Trapping	

APPENDIX I.

1990-91 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION			DATE			SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
2	Iron	43N	31W	24	2	2	91	9000193			Hunting	
2	Iron	45N	33W	33	11	19	90	9000062			Hunting	
2	Iron	45N	33W	20	12	4	90	9000179			Trapping	
2	Iron	45N	33W	34	11	19	90	9000001			Hunting	
2	Iron	45N	34W	01	11	27	90	9000172			Trapping	
2	Iron	45N	37W	13	11	19	90	9000191			Hunting	
2	Iron	46N	36W	12	12	3	90	9000173			Trapping	
2	Menominee	38N	28W	30	12	9	90	9000063	M	0.5	Trapping	
2	Menominee	34N	27W	09	11	19	90	9000141	F	4.5	Trapping	
2	Menominee	34N	26W	28	2	28	91	9000145			Trapping	
2	Menominee	36N	25W	09	1	24	91	9000144			Trapping	
2	Menominee	36N	28W	35	12	7	90	9000143			Hunting	
2	Menominee	37N	29W	09	11	19	90	9000142			Hunting	
2	Menominee	38N	28W	22	12	31	90	9000064			Hunting	
2	Menominee	39N	25W	10	2	10	91	9000298			Trapping	
2	Menominee	41N	25W	21	2	2	91	9000301			Trapping	
3	Alger	44N	21W	32	2	26	91	9000220			Trapping	
3	Alger	44N	21W	32	2	26	91	9000221			Trapping	
3	Alger	45N	21W	13	11	23	90	9000211			Hunting	
3	Delta	40N	22W	03	12	22	90	9000294	M	0.5	Found Dead	
3	Delta	41N	18W	29	12	30	90	9000251	M	3.5	Trapping	
3	Delta	39N	23W	19	11	17	90	9000284	F	0.5	Road Kill	Milk tooth
3	Delta	41N	22W	17	1	21	91	9000297	F	0.5	Trapping	
3	Delta	40N	18W	33	1	17	91	9000252	F	2.5	Trapping	
3	Delta	43N	21W	25	12	16	90	9000293	F	5.5	Hunting	
3	Delta	37N	24W	05	1	1	91	9000295			Hunting	
3	Delta	38N	24W	04	2	26	91	9000299			Trapping	
3	Delta	39N	18W	16	2	22	91	9000260			Trapping	
3	Delta	39N	18W	14	2	4	91	9000254			Trapping	
3	Delta	39N	18W	14	2	4	91	9000255			Trapping	
3	Delta	39N	22W	36	2	4	91	9000733			Hunting	
3	Delta	39N	24W	01	10	26	90	9000281			Trapping	
3	Delta	40N	18W	33	2	26	91	9000258			Trapping	
3	Delta	40N	18W	28	2	5	91	9000256			Trapping	
3	Delta	40N	19W	32	2	20	91	9000413			Trapping	
3	Delta	40N	21W	05	2	7	90	9000302			Trapping	
3	Delta	40N	23W	31	1	7	91	9001010			Hunting	
3	Delta	40N	24W	18	10	27	90	9000283			Trapping	
3	Delta	40N	24W	36	11	28	90	9000292			Hunting	
3	Delta	42N	21W	14	11	24	90	9000289			Trapping	
3	Delta	42N	23W	03	1	12	91	9000003			Hunting	
3	Delta	43N	20W	12	11	20	90	9000287			Hunting	
3	Delta	43N	22W	01	11	17	90	9000286			Hunting	
3	Delta	43N	22W	13	11	23	90	9000288			Hunting	
3	Marquette	44N	26W	22	12	28	90	9000276	F	0.5	Trapping	Premolar, Field F
3	Marquette	42N	25W		11	16	90	9000291			Illegal	
3	Marquette	43N	25W	14	11	17	90	9000285			Hunting	
3	Marquette	43N	26W	17	11	19	90	9000275			Hunting	

APPENDIX I.

1990-91 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION			DATE			SEAL	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
3	Marquette	43N	26W	17	11	15	90	9000272			Hunting	
3	Marquette	43N	26W	17	11	15	90	9000273			Hunting	
3	Marquette	44N	26W	06	2	18	91	9000280			Trapping	
3	Marquette	44N	26W	10	1	12	91	9000620			Hunting	
3	Marquette	45N	26W	10	1	5	91	9000277			Trapping	
3	Marquette	45N	26W	15	1	10	91	9000278			Trapping	
3	Marquette	45N	27W	34	2	7	91	9000279			Trapping	
3	Marquette	45N	29W	34	11	7	90	9000261			Hunting	
3	Marquette	45N	30W	22	2	9	91	9000178			Hunting	
3	Marquette	47N	23W	23	2	9	91	9000218			Trapping	
3	Marquette	47N	25W	26	2	10	91	9000219			Trapping	
3	Marquette	47N	26W	30	3	3	91	9000262			Road Kill	
3	Marquette	47N	26W	14	11	13	90	9000271			Trapping	
3	Marquette	47N	29W	01	12	29	90	9000214			Trapping	
3	Marquette	48N	26W	26	2	2	91	9000070			Road Kill	
3	Marquette	48N	28W	32	12	12	90	9000311			Trapping	
4	Alger	48N	16W	26	10	29	90	9000431			Trapping	
4	Chippewa	44N	06W	20	11	1	90	9000741	F	1.5	Hunting	
4	Chippewa	45N	01E	30	12	11	90	9001045	F	3.5	Hunting	
4	Chippewa	42N	02E	33	2	22	91	9001090			Hunting	
4	Chippewa	42N	02E	09	11	12	90	9001050			Hunting	
4	Chippewa	43N	01E	22	2	27	91	9001048			Hunting	
4	Chippewa	44N	01E	31	1	16	91	9001546			Trapping	
4	Chippewa	44N	04W	19	2	24	91	9000602			Hunting	
4	Chippewa	44N	05W	23	11	17	90	9001041			Trapping	
4	Chippewa	44N	05W	23	11	18	90	9001042			Trapping	
4	Chippewa	45N	06W	23	11	22	90	9000881			Hunting	
4	Chippewa	45N	06W	10	11	13	90	9000937			Hunting	
4	Chippewa	45N	07W	10	2	24	91	9000972			Trapping	
4	Chippewa	46N	06W	35	11	18	90	9000002			Hunting	
4	Chippewa	46N	07W	28	2	17	91	9001047			Hunting	
4	Chippewa	49N	07W		10	26	90	9001011			Hunting	
4	Luce	45N	09W	11	1	1	91	9000443			Trapping	
4	Luce	45N	12W	27	11	26	90	9000442			Trapping	
4	Luce	46N	09W	30	2	3	91	9000444			Hunting	
4	Luce	46N	09W	11	2	24	91	9000946			Hunting	
4	Mackinac	42N	01E	14	10	29	90	9000582	M	1.5	Trapping	
4	Mackinac	44N	08W	01	12	30	90	9000513	M	3.5	Hunting	
4	Mackinac	42N	01E	14	10	27	90	9000581	F	1.5	Trapping	
4	Mackinac	42N	01W	01	11	18	90	9000991			Hunting	
4	Mackinac	42N	02W	07	3	1	91	9001049			Hunting	
4	Mackinac	42N	03W	19	2	6	91	9001046			Trapping	
4	Mackinac	42N	12W	10	12	3	90	9000424			Trapping	
4	Mackinac	43N	02W	18	2	7	91	9001093			Trapping	
4	Mackinac	43N	02W	18	2	7	91	9001092			Hunting	
4	Mackinac	43N	02W	31	11	17	90	9001043			Hunting	
4	Mackinac	43N	04W	21	11	30	90	9001044			Hunting	
4	Mackinac	43N	05W	14	1	23	91	9000968			Trapping	

APPENDIX I.

1990-91 BOBCAT DATA - REGION I

DIST	COUNTY	LOCATION			DATE			SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
4	Mackinac	43N	05W	14	1	23	91	9000969			Trapping	
4	Mackinac	43N	05W	28	11	19	90	9000520			Hunting	
4	Mackinac	43N	07W	21	11	18	90	9000422			Hunting	
4	Mackinac	43N	09W	18	11	23	90	9000423			Hunting	
4	Mackinac	43N	09W	16	11	19	90	9000939			Hunting	
4	Mackinac	43N	09W	16	11	19	90	9000938			Hunting	
4	Mackinac	44N	07W	15	1	14	91	9000428			Trapping	
4	Mackinac	44N	10W	06	12	23	90	9000425			Trapping	
4	Schoolcraft	42N	16W	13	1	22	91	9000253	M	2.5	Hunting	
4	Schoolcraft				2	10	91	9000257			Trapping	Probably 44N or 41N, 15W Sec.28
4	Schoolcraft	41N	14W	10	12	15	90	9000583			Hunting	
4	Schoolcraft	41N	15W	33	2	23	91	9000412			Hunting	
4	Schoolcraft	41N	16W	20	1	26	91	9000962			Hunting	
4	Schoolcraft	41N	16W	11	11	17	90	9001001			Hunting	
4	Schoolcraft	42N	15W	01	3	18	91	9000420			Road Kill	
4	Schoolcraft	43N	13W	24	11	16	90	9000411			Hunting	
4	Schoolcraft	44N	13W		11	29	90	9001031			Trapping	
4	Schoolcraft	44N	18W	04	10	29	90	9000432			Trapping	
4	Schoolcraft	45N	13W	35	2	2	91	9000445			Trapping	
4	Schoolcraft	46N	14W	22	11	6	90	9000441			Trapping	

APPENDIX II.

1990-91 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION Twp. Rng. Sec	DATE Mo. Da. Yr.	SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
NA					F	1.5		
5	Alpena	31N 06E 29	3 20 91	9000554	M	0.5	Road Kill	Large P4, probably M
5	Alpena	31N 07E 05	2 24 91	9000574	M	0.5	Hunting	
5	Alpena	31N 08E 23	2 28 91	9000533	M	0.5	Hunting	
5	Alpena	32N 07E 25	2 13 91	9000577	M	0.5	Hunting	
5	Alpena	29N 06E 04	2 16 91	9000526	M	1.5	Hunting	
5	Alpena	32N 05E 07	2 16 91	9000524	M	1.5	Hunting	
5	Alpena	32N 08E 01	2 26 91	9000531	M	1.5	Hunting	
5	Alpena	31N 07E 30	1 7 91	9000541	M	4.5	Hunting	
5	Alpena	32N 07E 25	2 25 91	9000575	M	4.5	Hunting	
5	Alpena	31N 08E 23	2 28 91	9000532	M	5.5	Hunting	
5	Alpena	30N 08E 20	2 16 91	9000523	M	9.5	Hunting	
5	Alpena	30N 08E 32	2 25 91	9000578	F	0.5	Hunting	
5	Alpena	32N 08E 34	2 27 91	9000579	F	0.5	Hunting	
5	Alpena	30N 08E 09	1 20 91	9000529	F	1.5	Hunting	
5	Alpena	31N 05E 22	2 18 91	9000525	F	1.5	Hunting	
5	Alpena	31N 08E 31	2 24 91	9000573	F	1.5	Hunting	
5	Alpena	32N 05E 15	2 24 91	9000571	F	1.5	Hunting	
5	Alpena	32N 05E 15	2 3 91	9000547	F	4.5	Hunting	
5	Alpena	32N 07E 25	2 18 91	9000576	F	7.5	Hunting	
5	Alpena	30N 08E 20	2 20 91	9000527	F	9.5	Hunting	Age +/-1yr.
5	Alpena	29N 08E 05	2 28 91	9000948			Hunting	
5	Alpena	29N 08E 12	1 4 91	9000550			Hunting	
5	Alpena	30N 08E 04	1 8 91	9000831			Hunting	
5	Alpena	30N 08E 33	2 2 91	9000544			Hunting	
5	Alpena	30N 08E 17	1 15 91	9000542			Hunting	
5	Alpena	32N 05E 15	1 26 91	9000543			Hunting	
5	Alpena	32N 05E 34	1 27 91	9000548			Hunting	
5	Alpena	32N 05E 34	1 26 91	9000549			Hunting	
5	Alpena	32N 08E 24	2 16 91	9001012			Hunting	
5	Antrim	29N 05W 36	1 12 91	9000516	M	7.5	Hunting	
5	Charlevoix	33N 05W 13	1 12 91	9000613	M	2.5	Hunting	
5	Charlevoix	34N 08W 32	1 1 91	9000514	F	0.5	Hunting	
5	Charlevoix	34N 08W 32	1 1 91	9000515	F	2.5	Hunting	
5	Charlevoix	32N 05W 21	2 4 91	9000618			Hunting	
5	Charlevoix	32N 06W 13	1 28 91	9000617			Hunting	
5	Charlevoix	33N 05W 11	2 24 91	9000623			Hunting	
5	Charlevoix	33N 05W 30	2 25 91	9000624			Hunting	
5	Charlevoix	33N 05W 03	1 4 91	9000611			Hunting	
5	Cheboygan	33N 01W 08	2 25 91	9000878	M	0.5	Hunting	
5	Cheboygan	33N 01E 07	2 24 91	9000570			Hunting	
5	Cheboygan	33N 01E 06	3 1 91	9000930			Hunting	
5	Cheboygan	33N 01E 06	2 28 91	9000929			Hunting	
5	Cheboygan	33N 01E 06	2 25 91	9001020			Hunting	
5	Cheboygan	33N 01E 29	1 19 91	9000562			Hunting	
5	Cheboygan	33N 01W 02	1 27 91	9000616			Hunting	
5	Cheboygan	33N 01W 14	2 24 91	9000553			Hunting	
5	Cheboygan	33N 01W 36	2 28 91	9000552			Hunting	

APPENDIX II.

1990-91 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION			DATE			SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
5	Cheboygan	33N	01W	08	1	12	91	9000614			Hunting	
5	Cheboygan	34N	01E	18	1	19	91	9000587			Hunting	
5	Cheboygan	34N	01W	35	3	1	91	9000883			Hunting	
5	Cheboygan	34N	01W	30	3	1	91	9000625			Hunting	
5	Cheboygan	35N	01E	19	2	21	91	9000622			Hunting	
5	Cheboygan	35N	01E	31	2	17	91	9000641			Hunting	
5	Cheboygan	35N	02W	11	1	6	91	9000586			Hunting	
5	Cheboygan	36N	01E	32	2	20	91	9000621			Hunting	
5	Cheboygan	36N	03W	01	1	6	91	9000584			Hunting	
5	Cheboygan	37N	01E	32	2	28	91	9001014			Hunting	
5	Cheboygan	37N	03W	08	1	6	91	9000585			Hunting	
5	Emmet	37N	05W	24	2	28	91	9000947	M	1.5	Hunting	
5	Emmet	37N	05W	34	1	1	91	9000512	M	2.5	Hunting	
5	Emmet	36N	05W	09	2	2	91	9000732			Hunting	
5	Emmet	36N	05W	09	1	25	91	9000995			Hunting	
5	Emmet	36N	05W	09	2	2	91	9000732			Hunting	
5	Emmet	38N	04W	09	1	27	91	9000996			Hunting	
5	Emmet	38N	04W	36	1	13	91	9000612			Hunting	
5	Montmorency	29N	03E	18	2	1	91	9000566	M	5.5	Hunting	
5	Montmorency	30N	04E	18	2	13	91	9000567	F	2.5	Hunting	
5	Montmorency	31N	02E	20	2	25	91	9000879	F	6.5	Hunting	
5	Montmorency				2	16	91	9000877			Hunting	
5	Montmorency	29N	01E	08	2	1	91	9000863			Hunting	
5	Montmorency	29N	01E	08	2	2	91	9000864			Hunting	
5	Montmorency	29N	02E	35	1	6	91	9000561			Hunting	
5	Montmorency	30N	04E	07	2	8	91	9000945			Hunting	
5	Montmorency	31N	01E	03	1	27	91	9000963			Hunting	
5	Montmorency	31N	01E	20	2	2	91	9000605			Hunting	
5	Montmorency	31N	03E	06	1	13	91	9001034			Hunting	
5	Montmorency	31N	03E	29	2	17	91	9000876			Hunting	
5	Montmorency	31N	03E	06	2	27	91	9001013			Hunting	
5	Montmorency	31N	03E	16	1	27	91	9001037			Hunting	
5	Montmorency	32N	01E	06	2	26	91	9000998			Hunting	
5	Montmorency	32N	01E		2	28	91	9000793			Hunting	
5	Montmorency	32N	01E	18	2	2	91	9000565			Hunting	
5	Montmorency	32N	01E	18	1	27	91	9000551			Hunting	
5	Otsego	29N	02W	14	2	9	91	9000610	M	1.5	Hunting	
5	Otsego	32N	01W	23	1	19	91	9000955	M	1.5	Hunting	
5	Otsego	32N	02W	16	2	21	91	9000601	M	1.5	Hunting	
5	Otsego	29N	02W	17	2	2	91	9000944	M	6.5	Hunting	
5	Otsego	31N	01W	09	2	27	91	9000604	F	3.5	Hunting	
5	Otsego	31N	01W	21	1	21	91	9000517			Hunting	
5	Otsego	31N	01W	21	1	6	91	9000882			Hunting	
5	Otsego	31N	02W	02	2	2	91	9000904			Hunting	
5	Otsego	31N	02W	26	2	28	91	9000603			Hunting	
5	Otsego	32N	02W	19	2	3	91	9000518			Hunting	
5	Presque Isle	33N	03E		2	9	91	9001002	M	1.5	Hunting	
5	Presque Isle	35N	02E	12	3	1	91	9001088	M	1.5	Hunting	

Field F
Age +/-1yr.
May be 31N 01E Sec.27

APPENDIX II.

1990-91 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION			DATE			SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
5	Presque Isle	35N	02E	14	3	1	91	9001089	M	1.5	Hunting	
5	Presque Isle	33N	04E	03	2	25	91	9000528	M	2.5	Hunting	
5	Presque Isle	34N	04E	19	1	25	91	9000563	M	3.5	Hunting	Field M
5	Presque Isle	34N	07E	19	1	10	91	9000530	M	4.5	Hunting	
5	Presque Isle	33N	03E		2	9	91	9001003	F	0.5	Hunting	
5	Presque Isle	33N	08E	18	2	27	91	9000580	F	1.5	Hunting	
5	Presque Isle	34N	08E	27	2	13	91	9000522	F	1.5	Hunting	
5	Presque Isle	33N	08E	23	2	24	91	9000572	F	2.5	Hunting	
5	Presque Isle	34N	05E	23	2	16	91	9000568	F	2.5	Hunting	Broken, Field F
5	Presque Isle	34N	08E	27	1	15	91	9000521	F	3.5	Hunting	
5	Presque Isle	35N	05E	17	1	20	91	9001000	F	3.5	Hunting	
5	Presque Isle	33N	02E	05	2	28	91	9000626			Hunting	
5	Presque Isle	33N	02E	06	1	28	91	9000564			Hunting	
5	Presque Isle	35N	03E	11	1	29	91	9000588			Hunting	
5	Presque Isle	35N	04E	17	1	13	91	9000619			Hunting	
6	Kalkaska	27N	05W	27	1	12	91	9001645	F	0.5	Hunting	
6	Kalkaska	26N	06W	15	1	12	91	9000519	F	1.5	Hunting	
6	Kalkaska	25N	06W	12	1	27	91	9000792			Hunting	
6	Kalkaska	25N	06W	22	1	11	91	9000811			Hunting	
6	Kalkaska	26N	06W	14	1	26	91	9000802			Hunting	
6	Kalkaska	26N	06W	27	1	19	91	9000801			Hunting	
6	Kalkaska	26N	06W	15	1	27	91	9000744			Hunting	
6	Kalkaska	27N	06W	14	1	6	91	9000742			Hunting	
6	Missaukee	23N	06W	21	1	20	91	9000731	M	2.5	Hunting	
6	Missaukee	23N	06W	21	12	6	91	9000846	M	5.5	Hunting	
6	Missaukee	24N	06W	06	1	14	91	9000849	F	2.5	Hunting	
6	Missaukee	21N	06W	23	1	24	91	9000791			Hunting	
6	Missaukee	22N	05W	15	1	16	91	9000865			Hunting	
6	Missaukee	23N	06W	02	1	27	91	9000966			Hunting	
6	Missaukee	23N	07W	22	1	21	91	9000961			Hunting	
6	Missaukee	23N	07W	17	1	6	91	9000722			Hunting	
6	Osceola	18N	07W	18	1	14	91	9000724			Hunting	
6	Osceola	18N	08W	33	1	13	91	9000723			Hunting	
6	Osceola	18N	08W	29	1	7	91	9000721			Hunting	
6	Osceola	18N	08W	28	1	1	91	9000725			Hunting	
6	Osceola	19N	08W	29	1	19	91	9001035			Hunting	
6	Osceola	20N	07W	01	1	29	91	9000726			Hunting	
6	Wexford	21N	09W	06	1	1	91	9000761			Hunting	
6	Wexford	22N	09W	31	12	12	90				Road Kill	
6	Wexford	22N	10W	33	1	12	91	9000743			Hunting	
6	Wexford	22N	12W	18	2	1	91	9000773			Road Kill	
6	Wexford	24N	10W	28	1	9	91	9000762			Hunting	
7	Alcona	26N	05E	26	1	13	91	9000829			Hunting	
7	Alcona	26N	05E		1	18	91	9001036			Hunting	
7	Alcona	28N	08E	27	1	19	91	9000830			Hunting	
7	Alcona	28N	08E	27	1	28	91	9000832			Hunting	
7	Arenac	20N	03E	33	1	30	91	9000943			Hunting	
7	Clare	19N	06W	21	1	27	91	9000730	*		Hunting	* 1 yr. old Domestic Cat tooth

APPENDIX II.

1990-91 BOBCAT DATA - REGION II

DIST	COUNTY	LOCATION			DATE			SEAL NUMBER	SEX	AGE	METHOD	COMMENTS
		Twp.	Rng.	Sec	Mo.	Da.	Yr.					
7	Clare	18N	06W	04	1	6	91	9001100	M	1.5	Hunting	
7	Clare	18N	05W	27	1	31	90	9000727	M	2.5	Hunting	
7	Clare	18N	06W	31	1	6	91	9001099	F	2.5	Hunting	
7	Clare	17N	05W	26	1	13	91	9000058			Hunting	
7	Clare	17N	09W	06	1	13	91	9000970			Hunting	
7	Clare	18N	06W	32	1	28	91	9000964			Hunting	
7	Crawford	27N	3W		11	17	90		M	1.5	Road Kill	
7	Crawford	25N	01W	14	1	2	91	9000871			Hunting	
7	Crawford	25N	02W	19	1	6	91	9000910			Hunting	
7	Crawford	28N	01W	20	1	9	91	9000822			Hunting	Insufficient sample
7	Crawford	28N	01W	27	1	8	91	9000821			Hunting	Insufficient sample
7	Gladwin	19N	02E	19	1	29	91	9000874	M	0.5	Hunting	
7	Gladwin	19N	01W	29	1	29	91	9000875	M	5.5	Hunting	
7	Gladwin	19N	02E	11	1	6	91	9000941			Hunting	
7	Iosco	23N	05E		1	2	91	9001033			Hunting	
7	Iosco	24N	05E	07	1	12	91	9000826			Hunting	
7	Iosco	24N	05E	07	1	12	91	9000828			Hunting	
7	Iosco	24N	06E	23	1	12	91	9000827			Hunting	
7	Ogemaw	21N	01E	15	1	13	91	9000868			Hunting	
7	Ogemaw	21N	01E	24	1	1	91	9000902			Hunting	
7	Ogemaw	22N	03E	22	1	6	91	9000866			Hunting	
7	Ogemaw	22N	04E	16	1	5	91	9000867			Hunting	
7	Ogemaw	23N	02E	14	1	27	91	9000956			Hunting	
7	Oscoda						**		M	8.5		
7	Oscoda	28N	03E	35	2	1	91	9000823	F	1.5	Road Kill	
7	Oscoda	26N	01E	23	2	1	91	9000957	F	4.5	Hunting	
7	Oscoda	26N	01E	17	2	1	91	9000971			Hunting	
7	Oscoda	26N	01E	11	1	27	91	9000880			Hunting	
7	Oscoda	26N	01E	16	1	26	91	9000997			Hunting	
7	Oscoda	26N	01E	03	1	10	91	9000917			Hunting	
7	Oscoda	26N	03E	10	1	13	91	9000912			Hunting	
7	Oscoda	27N	01E	26	1	31	91	9000915			Hunting	
7	Oscoda	27N	01E	26	1	28	91	9000914			Hunting	
7	Oscoda	27N	01E	24	1	26	91	9000913			Hunting	
7	Oscoda	27N	03E	14	2	23	91	9000569			Road Kill	
7	Roscommon	22N	02W	08	1	13	91	9000873	M	1.5	Hunting	
7	Roscommon	22N	03W	15	1	7	91	9001098	M	1.5	Hunting	
7	Roscommon	22N	04W	30	1	13	91	9000847	F	0.5	Hunting	
7	Roscommon	22N	04W	19	1	13	91	9000848	F	4.5	Hunting	
7	Roscommon	21N	03W	07	1	6	91	9000872			Hunting	
7	Roscommon	21N	04W	35	1	30	91	9000850			Hunting	
7	Roscommon	23N	02W	28	2	1	91	9000908			Hunting	
7	Roscommon	23N	03W	17	1	8	91	9000993			Hunting	
7	Roscommon	23N	03W	18	1	7	91	9000994			Hunting	
7	Roscommon	24N	02W	36	1	13	91	9000909			Hunting	
7	Roscommon	24N	03W	02	1	14	91	9000903			Hunting	
7	Roscommon	24N	03W	13	9	9	90	9000511			Road Kill	
7	Roscommon	24N	04W	18	11	20	90	9000901			Road Kill	