TRAPPING HARVEST STATISTICS

Division of Fish and Wildlife

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2015 TRAPPER HARVEST SURVEY

Margaret Dexter, Wildlife Research Unit

INTRODUCTION

The Minnesota Department of Natural Resources (MNDNR) annually conducts a mail survey of licensed trappers. Annual harvest estimates from the survey data are used to help assess and set trapping regulations and season structure. Beginning in 2000, survey cards were sent to all trappers with a valid mailing address. Information concerning registered harvest (fisher, marten, bobcat, and otter) is obtained from mandatory registration of these animals. Details regarding methods and results can be found in the Registered Furbearer Harvest report on the DNR website.

METHODS

The sampling frame consisted of all individuals with active MNDNR trapping licenses (all types) listed in the Electronic License System (ELS) database in late February 2016. There were 8,334 active trapping licenses in the ELS database, which consisted of 6,216 Resident Regular Trappers, 371 Resident Junior Trappers, 1,202 Resident Senior Trappers, 533 "active" Lifetime Trappers, and 12 Nonresident (MN landowners) license holders. License type was reclassified as "adult" (regular, lifetime, and non-resident) or "youth" for analysis purposes.

The MNDNR Trapper Harvest Survey is a census but the response rate is <100% (mean = 70%, range: 56–79%). Thus, uncertainty in harvest estimates is strictly a function of non-response (missing data) rather than random sampling. However, if non-response (unit and item) is completely random then data from respondents can be treated as a random sample, which is how the Trapper Harvest Survey has been analyzed historically. The critical assumption is that non-response is completely random (e.g., if you repeated the survey, non-respondents would be a random subset of licensed trappers). For consistency with previous analyses, the response data was treated as a random sample.

A postcard survey (Figure 1) was sent to all trapping license holders with a valid mailing address at the close of the license year. Trappers that returned the survey questionnaire within three weeks were marked returned and eliminated from follow-up mailings. A single follow-up mailing was sent to non-respondents. Returned questionnaires were checked for completeness, consistency, and biological practicability. Cards were marked with numeric county codes corresponding to the trapper's written information. Data from each usable card was converted to an electronic database. Duel key-entry and quality control checks were used to minimize transcription errors. Data was tabulated using Viking Data Entry VDE+ software and statistically analyzed using R programming language (R version 3.1.2 (2014-10-31); R Development Core Team [RDCT] 2014) to summarize responses.

RESULTS

We mailed out 8,334 surveys, 88 surveys were undeliverable and 4,792 were returned for an adjusted response rate of 58.1%. Sixty nine percent of respondents (adults = 68%, youth = 77%) reported setting traps for at least one species (Table 1, Figure 2). Historic trapper estimates are presented in Table 2, Table 3, and Table 4.

ACKNOWLEDGEMENTS

Minnesota Department of Natural Resources
Division of Fish and Wildlife
Wildlife Research Unit
500 Lafayette Road, Box 20
St. Paul, MN 55155

RETURN SERVICE REQUESTED

Dear Trapper:

You are being asked as a trapping license buyer to assist us in evaluating the 2015-2016 trapping season (**March 2015-February 2016**). For Spring Beaver, please report only animals taken between March 2015 and May 15, 2015. We need this information to estimate the season's harvest and to help set future furbearer trapping seasons. Similar to past years we are also asking for the **average number of traps you set per day** for each species. If a trap is set for multiple species, count the trap for both species when answering the question. For example, if you ran 20 mink/coon traps each day, enter 20 traps/day for both mink and coon.

YOUR RESPONSE IS NEEDED
EVEN IF YOU DID NOT SET TRAPS THIS YEAR.

Please fill out the attached questionnaire and mail as soon as possible. A reminder will be sent to individuals not returning the questionnaire within three weeks. No envelope or stamp is necessary; just tear along the perforation and drop into a mailbox.

THANK YOU FOR YOUR COOPERATION

Lou Cornicelli, Wildlife Research Program Manager
Division of Fish and Wildlife
Department of Natural Resources

2015 Trapper Report

1. Did you set traps / snares in Minnesota during the 2015-2016 trapping season?
   ☐ No   ☐ Yes   (Please check one)
2. Indicate your harvest, the number of days you trapped for each species, the average number of traps you had set PER DAY for each species, and the county in which you trapped **most** for each species. Report only animals **YOU personally** trapped in Minnesota. Animals taken by hunting should **NOT** be reported here.

Species Trapped		Number YOU Trapped All Season	# Days Trapped All Season	Average # Traps/Snares Set Per Day	County You Trapped In Most
Muskrat	80				
Mink	32				
Gray Fox	96				
Striped skunk	34				
Coyote (brush wolf)	97				
Beaver (Mar-May '15)	81				
Beaver (Oct '15-Feb '16)	82				
Pine marten	37				
Otter	38				
Fisher	36				
Badger	35				
Long-tailed weasel	31				
Short-tailed weasel	30				
Opossum	10				
Bobcat	98				
Raccoon	94				
Red Fox	95				

Minnesota Department of Natural Resources
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Wildlife Research Unit
500 Lafayette Road, Box 20
MNDNR St. Paul, MN 55155

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395 JOHN IRELAND BLVD
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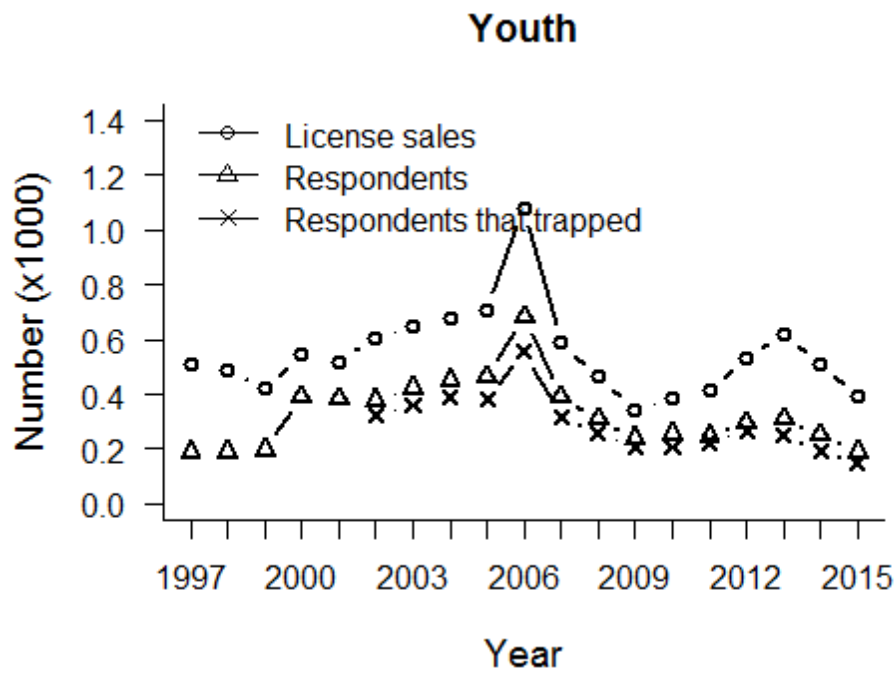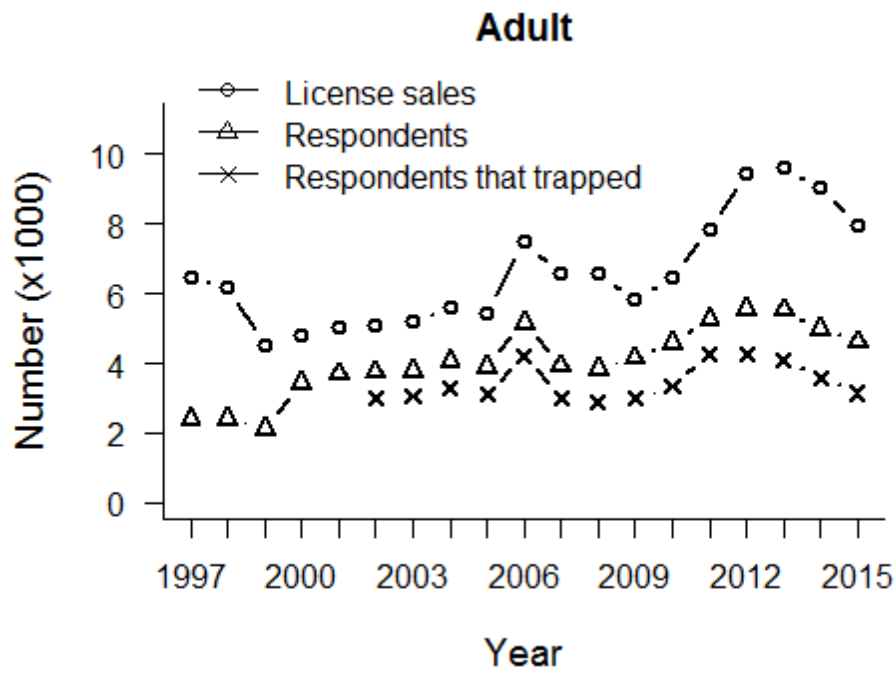
Figure 1. Trapper survey card 2015.

Figure 2. Trapper license sales and mail survey response by age class (Adult vs Youth), 1997-98 through 2015-16.

Table 1. Use of trapper licenses, 2002-03 through 2015-16.

Year		Returns from mail survey	Projections from license sales
2002-03	Trapped Did not trap	3,344 (80.6%) 804 (19.4%) 4,148 (100%)	4,615 1,111 5,726[a]
2003-04	Trapped Did not trap	3,412 (81.1%) 793 (18.9%) 4,205 (100.0%)	4,737 1,104 5,841[a]
2004-05	Trapped Did not trap	3,697 (81.9%) 815 (18.1%) 4,512 (100.0%)	5,136 1,135 6,271[a]
2005-06	Trapped Did not trap	3,495 (80.0%) 875 (20.0%) 4,370 (100.0%)	4,930 1,233 6,163[a]
2006-07	Trapped Did not trap	4,782 (81.9%) 1,053 (18.1%) 5,835 (100.0%)	7,008 1,549 8,557[a]
2007-08	Trapped Did not trap	3,322 (77.2%) 980 (22.8%) 4,302 (100.0%)	5,533 1,634 7,167[a]
2008-09	Trapped Did not trap	3,154 (75.7%) 1,012 (24.3%) 4,166 (100.0%)	5,319 1,708 7,027[a]
2009-10	Trapped Did not trap	3,202 (72.7%) 1,202 (27.3%) 4,404 (100.0%)	4,467 1,677 6,144[a]
2010-11	Trapped Did not trap	3,546 (73.2%) 1,298 (26.8%) 4,844 (100.0%)	5,032 1,843 6,875[a]
2011-12	Trapped Did not trap	4,498 (81.5%) 1,019 (18.5%) 5,517 (100.0%)	6,748 1,532 8,280[a]
2012-13	Trapped Did not trap	4,537 (77.6%) 1,307 (22.4%) 5,844 (100.0%)	7,747 2,236 9,983[a]
2013-14	Trapped Did not trap	4,342 (74.6%) 1,480 (25.4%) 5,822 (100.0%)	7,627 2,597 10,224[a]
2014-15	Trapped Did not trap	3,786 (72.2%) 1,459 (27.8%) 5,245 (100.0%)	6,888 2,652 9,540[a]
2015-16	Trapped Did not trap	3,296 (68.8%) 1,496 (31.2%) 4,792 (100.0%)	5,734 2,600 8,334[a]

[a] excludes duplicates.

Table 2. Estimated number of trappers of various furbearers, 2002-03 through 2015-16.

	Estimated number of trappers													
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Muskrat	2137	2117	2269	2351	4228	2371	2393	2088	2760	4,320	4,110	3,410	2,902	2,218
Mink	1945	1917	2085	1864	3033	2168	2044	1541	1847	2,470	3,110	2,780	2,158	1,587
Short-tailed weasel	408	473	470	349	864	595	511	417	546	800	690	510	666	289
Long-tailed weasel	312	374	299	211	694	434	345	254	333	560	540	480	519	265
Raccoon (Sept -Feb)	2427	2384	2505	2315	3766	3189	3150	2320	2567	4,060	4,680	4,660	4,182	2,781
Raccoon (Mar -Aug)[a]	354	338	406	322										
Striped skunk	1052	1102	1161	1023	1644	1485	1488	949	1130	1,800	1,940	1,610	1,541	1,234
Eastern spotted skunk	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Badger	237	292	310	219	347	330	293	206	229	310	360	390	284	247
Opossum	754	934	1037	957	1511	1392	1169	701	645	830	1,100	1,110	575	463
Red fox (Sept -Feb)	1319	1290	1179	991	1608	1320	1232	1006	1068	1,900	2,240	2,080	2,012	1,434
Red fox (Mar -Aug)[a]	111	113	110	85										
Gray fox	421	441	451	407	806	654	657	529	555	970	1,180	1,060	1,035	684
Coyote	813	812	826	857	1379	1203	1141	888	998	1,720	2,360	2,200	2,396	1,981
Beaver (Oct 15- Feb 16)	1844	1883	2171	1965	2659	2008	1877	1650	1722	2,360	2,620	2,710	2,189	1,894
Beaver (Mar 15- May 15)	1296	1233	1449	1455	1710	1408	1257	1260	1367	1,510	1,810	1,150	1,305	1,145

[a] Raccoon and red fox season continuous May 1994 thru March 15, 2006.

Note: Estimates prior to 2009 may differ from values published in previous reports because of rounding and more recent estimates were recomputed using a standardized historic dataset (vs. being carried forward from previous reports).

Table 3. Estimated take per trapper of various furbearers, 2002-03 through 2015-2016.

	Estimated take per successful trapper reporting that species													
	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Muskrat	36	33	32	39	58	32	34	48	66	82	59	36	39	51
Mink	11	9	11	10	9	9	9	9	8	7	6	6	5	5
Short-tailed weasel	8	8	6	7	10	7	7	8	10	10	7	5	8	4
Long-tailed weasel	4	5	4	4	6	5	3	4	6	6	4	3	5	3
Raccoon (Sept -Feb)	26	23	23	22	21	24	23	20	23	25	18	16	15	11
Raccoon (Mar Aug)[a]	12	15	13	12										
Striped skunk	8	8	8	7	7	8	7	7	8	7	7	6	6	6
Eastern spotted skunk	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Badger	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Opossum	12	13	14	13	14	13	10	8	7	6	7	7	7	4
Red fox (Sept -Feb)	6	6	4	4	5	4	3	3	4	4	4	3	4	3
Red fox (Mar -Aug)[a]	6	6	4	3										
Gray fox	3	3	2	2	3	3	3	3	2	3	3	2	2	2
Coyote	5	5	5	5	4	5	4	5	5	6	5	5	5	6
Beaver (Oct 15-Feb 16)	13	13	14	14	13	11	12	12	10	12	10	9	8	8
Beaver (Mar 15-May 15)	27	22	27	25	25	19	23	20	22	20	20	9	16	14

[a] Raccoon and red fox season continuous May 1994 thru March 15, 2006.

Note: Estimates may differ from values published in previous reports because of rounding and they were recomputed using a ratio of estimated totals (estimated harvest / estimated trappers), which were computed from the standardized, historic harvest dataset.

Table 4. Minnesota trapper license sales and estimated annual harvest, 2002-03 through 2015-2016[a]

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Trapper license sales [b]	5,725	5,841	6,271	6,163	8,557	7,167	7,027	6,158	6,885	8,280	9,998	10,224	9,540	8,334
Estimated harvest [c]														
Muskrat	75,190	69,131	72,079	91,271	243,360	75,439	80,157	98,524	180,505	352,030	242,120	120,500	111,998	112,219
Mink	19,894	16,716	21,478	18,048	26,084	18,626	16,647	13,207	13,853	15,770	18,460	14,710	10,211	7,745
Short-tailed weasel	2,895	3,519	2,679	2,223	8,145	4,155	3,515	3,128	4,914	7,300	4,500	2,360	4,806	1,083
Long-tailed weasel	1,138	1,781	1,007	651	3,494	2,013	1,118	838	1,732	3,020	2,030	1,410	2,568	734
Raccoon (Oct - Feb)	61,221	53,534	56,848	48,966	78,571	73,498	71,893	45,118	57,245	98,240	79,800	70,380	58,868	29,963
Raccoon (Mar -Aug)[f]	4,137	4,933	4,940	3,594										
Striped skunk	7,901	8,474	8,704	6,881	10,773	10,811	10,354	6,194	8,023	12,250	12,620	9,430	7,956	6,349
Eastern spotted skunk [g]	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Badger	358	552	455	339	461	499	424	316	344	490	570	600	347	376
Opossum	8,491	11,251	14,313	11,754	20,442	17	11,296	4,963	4,193	4,400	6,780	6,720	3,524	1,814
Red fox (Oct - Feb)	7,851	6,721	4,684	3,528	6,783	4,060	3,500	2,984	3,311	7,250	7,540	5,710	6,040	4,061
Red fox (Mar -Aug)[f]	612	635	334	222										
Gray fox	892	915	898	797	1,703	1,360	1,320	1,084	1,110	2,100	2,550	1,940	1,902	1,161
Coyote	3,641	3,805	3,607	3,915	5,315	5,355	4,532	3,797	4,292	8,780	11,130	9,010	11,703	10,084
Beaver (Oct 15- Feb 16)	23,592	22,801	28,716	26,029	33,966	21,813	21,075	18,178	17,048	26,620	24,590	23,220	15,671	14,181
Beaver (Mar 15-May 15)	33,721	26,363	37,861	35,252	41,652	26,286	27,815	25,008	29,118	29,500	34,600	10,110	20,820	15,966
Registered harvest [d]														
Otter	2,145	2,766	3,450	2,846	2,720	1,861	1,938	1,544	1,814	2,294	3,171	2,824	2,148	1,955
Lynx [g]	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Bobcat [e]	544	483	631	590	890	702	853	884	1,012	1,711	1,875	1,038	1,380	766
Fisher	2,660	2,517	2,552	2,388	3,251	1,682	1,712	1,259	903	1,473	1,293	1,146	919	756
Marten	2,839	3,214	3,241	2,653	3,788	2,221	1,823	2,073	1,842	2,525	1,472	1,014	1,055	877

[a] Includes data for all seasons from October through April of years indicated.
[b] Separate licenses were issued for juveniles (13-17 years old) and adults (18 and older), beginning in 1982. Nonresident (MN Landowner) licenses started in 2004. Senior trapping licenses were first issued in 2007. Lifetime Licenses became available for free when renewing lifetime sports or small game licenses in 2007. As of April, 2016 - 8,334 trapping licenses were sold in 2015: 371 (4.5%) were junior licenses, 6,216 (74.6%) were Regular adult licenses, 1,202 (14.4%) were Senior licenses, 533 (6.4%) were Lifetime licenses, and 12 (<1%) were Nonresident (MN Landowner) licenses. Duplicate licenses excluded.
[c] Based upon trappers' responses to mail surveys. [d.] Registered harvest information as reported from annual, mandatory registration.
[e] Registered harvest for bobcat includes animals taken by hunting. [f] Raccoon and red fox season continuous May 1994 thru March 15, 2006.
[g] Lynx (1984) and Eastern spotted skunk (1996) listed as Special Concern and threatened species (respectively) and are fully protected.

MINNESOTA FUR BUYERS SURVEY FOR THE 2015-2016 HUNTING AND TRAPPING SEASON

Jason Abraham, Wildlife Season Setting/Furbearer Specialist
Margaret Dexter, Wildlife Policy and Research Unit

INTRODUCTION

Fur buyers are individuals licensed by the State of Minnesota to buy and sell raw fur. They are required to keep complete records of all transactions and activities related to buying, selling, and disposing of raw furs. Each year buyers are sent a questionnaire asking them to submit information regarding the "average" price they paid to trappers for various furbearers the previous season.

METHODS

In August 2016, questionnaires were mailed to the 38 licensed fur buyers in Minnesota. The survey asked them to report the number and type of fur purchased from Minnesota trappers and hunters in 2015-16 and the "average price" paid to those hunters and trappers based on all furs purchased. A total of 30 usable surveys were received, for a return rate of 78 percent.

Calculations of average pelt price for each species were weighted according to the number of pelts purchased by each buyer. Average pelt prices for the past 15 years are summarized in Table 2. Total estimated value of the furbearer harvest to trappers and hunters in 2015-16 was $346,260.91, a 52 percent decrease from 2014-2015.

Table 1. Minnesota fur prices as reported by licensed fur dealers, 2015-16.

Species	Number Pelts	Minimum Price	Maximum Price	Weighted Mean
Muskrat	30,917	1.00	5.00	2.28
Mink Female	376	2.00	8.00	4.99
Mink male	410	2.00	12.00	6.18
Raccoon	18,990	0.00	20.00	5.11
Red Fox	894	5.00	20.00	11.86
Gray Fox	55	10.00	20.00	10.64
Coyote	4,024	13.00	30.00	21.48
Bobcat	50	42.00	70.00	57.46
River Otter	213	15.00	25.00	30.03
Beaver 10-12	2,034	4.72	14.00	8.77
Beaver 3-4	3,584	5.00	9.00	8.24
L.T. Weasel	41	1.00	1.81	1.41
S.T. Weasel	79	1.00	2.00	1.46
Striped Skunk	98	1.00	7.50	3.65
Badger	27	7.00	18.50	9.57
Opossum	68	0.75	5.00	1.98
Fisher Male	29	25.00	43.33	34.88
Fisher Female	19	30.00	43.33	34.39
Marten Male	38	26.67	35.00	30.83
Marten Female	15	25.00	30.00	28.89
Deer Hides	6,540	3.00	7.00	5.62
Bear Hides	68	25.00	50.00	46.03

Table 2. Average price per pelt paid to hunters and trappers in Minnesota, 2005-06 through 2015-16.

Species	Average pelt prices paid hunters and trappers in Minnesota (dollars)										
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Muskrat	2.81	5.79	2.96	1.85	4.43	5.33	5.86	7.91	8.72	4.85	2.28
Mink (female)	10.23	13.18	9.05	7.45	8.02	9.33	11.54	17.53	13.72	7.45	4.99
Mink (male)	14.29	18.04	12.32	9.14	9.37	13.66	14.68	18.27	18.11	10.50	6.18
S.T. Weasel	2.6	3.58	3.18	3.57	3.02	1.50	2.10	2.51	0.00	2.00	1.41
L.T. Weasel	2.56	4.35	5	2.21	3.12	2.87	4.02	4.10	2.35	1.78	1.46
Raccoon	9.61	11.92	14.32	9.34	9.18	10.87	12.57	16.60	16.58	8.64	5.11
Striped Skunk	3.77	4.46	5.27	2.56	3.66	3.29	3.55	5.00	4.14	3.86	3.65
Badger	13.4	15.71	13.92	7.70	8.81	10.43	13.47	14.54	13.72	9.52	9.57
Opossum	1.4	1.52	1.76	1.21	1.30	2.64	5.80	1.52	1.52	1.17	1.98
Red Fox	16.96	17.68	14.69	11.79	10.85	13.35	22.87	33.52	30.90	20.41	11.86
Gray Fox	15	22.36	30.09	14.08	11.55	14.64	15.11	19.20	21.27	14.17	10.64
Coyote	13.57	17.76	13.51	7.12	8.62	9.47	17.99	22.04	21.30	25.10	21.48
Bobcat	95.74	101.07	93.41	74.74	42.77	71.44	98.18	144.79	88.63	66.67	57.46
Beaver (fall-winter)	14.48	18.35	14.6	14.63	12.49	11.95	14.29	18.47	16.52	12.40	8.77
Beaver (spring)	16.49	14.81	17.77	9.36	14.47	14.50	19.96	12.80	14.77	10.69	8.24
Otter	88.89	42.85	29.49	24.33	35.65	34.53	51.40	72.12	61.32	34.57	30.03
Fisher (male)	36.03	76.33	63.09	22.27	34.45	38.19	47.69	62.38	61.32	41.76	34.88
Fisher (female)	31.46	67.82	48.24	37.22	34.90	37.31	39.59	63.02	67.73	50.87	34.39
Marten (male)	37.47	74.04	58.72	30.61	26.76	39.80	42.32	56.57	74.10	38.92	30.83
Marten (female)	31.53	66.09	50.05	28.19	29.95	36.57	39.49	54.29	70.94	32.20	28.89
Deer Hides	4.14	4.51	3.92	3.53	4.44	4.41	3.95	5.18	6.09	5.59	5.62
Bear Hides	39.3	43.03	36.57	29.81	43.00	33.38	28.79	30.28	42.63	32.94	46.03