

MONTANA FISH, WILDLIFE & PARKS
HUNTING SEASON / QUOTA CHANGE SUPPORTING INFORMATION

Species: Bobcat
Region: 5
Year: 2022-23

1. Describe the proposed season / quota changes and provide a summary of prior history (i.e., prior history of permits, season types, etc.).

Decrease the Region 5 bobcat quota from 200 bobcats to 100 bobcats.

Current quota: 200

Proposed quota: 100

Table 1. Season quota and bobcats trapped 1983-84 to 2021-2022.

Year	Total Quota	Trapper Quota	Date Closed	Sex			Reser- vation ¹	Quota Bobcats ²	Total ³
				Males	Females	Unkn			
83-84	225	3	JAN	122	114	3	9	248	248
84-85	250	3	JAN	142	136	2	18	298	298
85-86	300	3	-	86	63	0	10	159	159
86-87	200	3	-	89	72	1	0	162	162
87-88	200	3	-	83	98	0	4	185	185
88-89	150	3	-	66	57	0	1	124	124
89-90	150	3	-	38	37	2	0	77	77
90-91	150	3	-	27	21	1	5	54	54
91-92	150	6	-	74	69	0	2	145	145
92-93	150	6	JAN 30	92	67	0	6	165	165
93-94	150	6	FEB 06	97	58	0	6	161	161
94-95	150	7	-	72	72	0	0	144	144
95-96	150	7	-	66	41	0	3	107	110
96-97	150	7	FEB 05	77	82	0	7	159	166
97-98	200	7	-	98	84	1	8	183	191
98-99 ³	200	NONE	-	92	99	1	6	192	198
99-00	200	NONE	FEB 10	110	93	0	9	203	212
00-01	200	NONE	JAN 21	120	99	0	17	219	236
01-02	250	NONE	JAN 06	139	114	0	9	253	262
02-03	300	NONE	JAN 04	183	132	0	3	315	318
03-04	350	NONE	JAN 04	185	171	0	10	356	366
04-05	400	NONE	JAN 05	236	194	0	14	430	444
05-06	400	NONE	JAN 12	193	201	0	10	394	404
06-07	400	NONE	DEC 31	244	182	0	5	426	431
07-08	500	NONE	JAN 09	259	231	0	17	490	507
08-09	500	NONE	JAN 21	262	240	0	6	502	508
09-10	500	NONE	-	257	211	0	16	468	484
10-11	400	NONE	-	196	211	0	14	407	421
11-12	300	NONE	JAN 26	171	138	0	15	309	324
12-13	300	NONE	JAN 27	131	171	0	8	302	310
13-14	300	NONE	FEB 13	147	163	0	4	307	311
14-15	250	NONE	-	115	91	0	9	206	215
15-16	200	NONE	-	92	94	0	6	186	192
16-17	200	NONE	FEB 12	117	91	0	1	208	209
17-18	200	NONE	FEB 4	110	101	0	2	211	213
18-19	200	NONE	FEB 9	106	97	0	6	203	209
19-20	200	NONE	-	102	99	0	10	201	211
20-21	200	NONE	-	64	62	0	7	126	133
21-22	200	NONE	-	61	53	0	2	114	116
Avg. 83-84 to 20-21				128	115			250	242
Deviation from Avg.				-52%	-54%			-54%	

¹ Includes cats tagged by Region 5 personnel taken by licensed trappers on private land within the reservation boundary. These bobcats are not counted towards the quota.

² Includes illegal cats.

³Totals may differ from previously reported totals because of discrepancies in reporting cats taken within the reservation boundary.

⁴ In 1998-99 the season was extended to March 1st, prior to this year the season closed February 15th.

2. Why is the proposed change necessary?

A. Following several years of below average kitten production and/or survival it is necessary to decrease the quota this year to give the bobcat population an opportunity to increase in Region 5.

Most of the 2020-21 harvested R-5 bobcats have been age classified to date (99%), and the number of juveniles (0.10) per adult females (1.5yrs and older) is 83% below the long-term average (Table 2). Juvenile production and/or survival was poor 3 of the last 4 years. Adult female harvest was 49% of the harvest. Adult female harvest should not be above 50% in a robust population. High adult female harvest in the face of low juvenile recruitment is likely to result in a declining bobcat population.

Table 2. Age structure of bobcats trapped in Region 5, 1994-95 to 2021-22.

YEAR	ADULTS ≥ 1.5 YEARS OLD		% AD. FEM	# OF JUV.	JUV/AD FEM.	JUV/AD	TOT. ADULTS ≥ 1.5 YEARS AGED	NO. YRLS.	% YRLS
	MALES	FEM.							
9495	58	56	49%	15	.27	0.132	114	11	10%
9596	57	33	37%	15	.45	0.190	90	18	20%
9697	50	57	53%	46	.81	0.439	107	23	21%
9798	87	73	46%	23	.31	0.140	160	37	23%
9899	65	56	46%	63	1.12	0.517	121	29	24%
9900	92	63	41%	50	.79	0.356	155	57	37%
0001	97	66	40%	63	.95	0.404	163	58	36%
0102	116	80	41%	61	.76	0.309	196	71	36%
0203	152	95	38%	66	.69	0.270	247	53	21%
0304	127	103	45%	111	1.08	0.464	230	48	21%
0405	186	148	44%	87	.59	0.260	334	134	40%
0506	156	142	48%	91	.64	0.305	298	102	34%
0607	172	115	40%	106	.92	0.363	287	104	36%
0708	205	174	46%	120	.69	0.331	379	180	47%
0809	188	170	47%	101	.59	0.268	358	68	19%
0910	239	177	43%	71	.40	0.170	416	148	36%
1011	172	183	52%	47	.26	0.134	355	66	19%
1112	153	120	44%	43	.36	0.161	272	53	19%
1213	99	116	54%	83	.72	0.402	215	66	31%
1314	116	133	53%	57	.43	0.237	249	103	41%
1415	95	62	39%	49	.79	0.347	157	54	34%
1516	70	64	48%	49	.77	0.366	134	72	54%
1617	102	74	42%	32	.43	0.181	176	86	49%
1718	97	85	47%	29	.34	0.171	182	84	46%
1819	105	92	47%	6	.07	0.030	197	57	29%
1920	84	77	48%	40	.52	0.248	161	29	18%
2021	50	48	49%	12	.25	0.122	98	43	44%
2122 ¹	58	49	46%	5	0.10	0.047	107	NA	NA
AVG. 94-95 to 20-21					.59				31%
% Deviation from Avg.					-83%				
% Deviation from prev. year					-59%				

¹ Preliminary age data

B. Total number of cats trapped in Region 5 steadily increased between 1995-96 and 2008-09. Since 2009-10 the number of cats trapped has steadily decreased. Analysis of trapper effort suggests that the bobcat population may have declined to the mid to late 1990s levels, when the quota ranged from 150-200.

In Region 5, 61 males, (54%) and 53 females, (46%) were taken outside the reservation boundary during the 2021-22 trapping season (Table 1). The regional quota was not filled, and the season remained open until March 1 after 91 days. The 2020-21 and 2019-20 bobcat trapping seasons also did not meet the quota and remained open for 91 days. The 2018-19 bobcat trapping season closed on February 9th after 71 days. The 2017-18 bobcat trapping season closed February 4 after 66 days. The 2016-17 trapping season closed February 12 after 74 days. An analysis of trapper effort (bobcats harvested/trapper-day) suggests that the bobcat population may be below mid to late 1990s levels (Fig. 2, Table 3), when the quota ranged from 150-200.

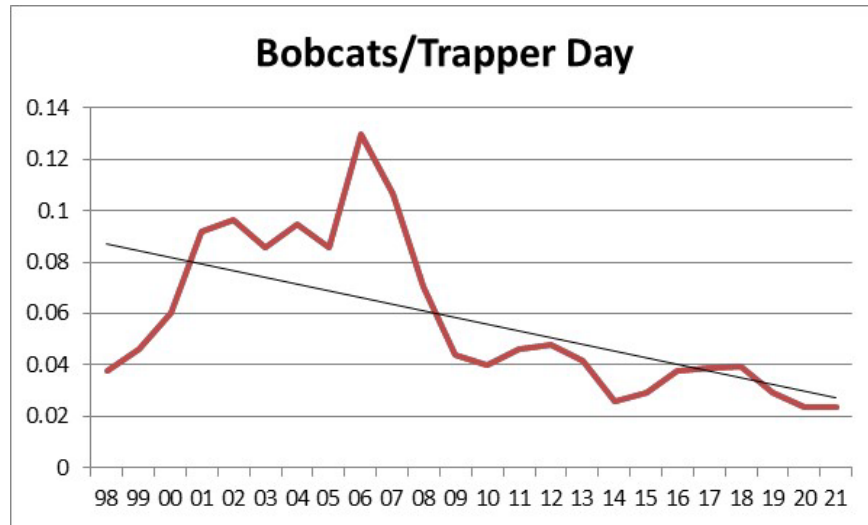


Figure 2. Region 5 bobcats harvested/trapper day from bobcat trapping seasons 1998-99 to 2021-22.

Table 3. Summary of bobcats/trapper and bobcats per trapper day from 1998-99 to 2021-22

Year	Quota	Season Length (days)	Quota Bobcats	Number of Trappers	Bobcats/Trapper	Bobcats/Trapper Day
1998-99	200	77	198	68	2.91	0.038
1999-00	200	72	212	64	3.31	0.046
2000-01	200	52	236	75	3.15	0.061
2001-02	250	37	262	77	3.40	0.092
2002-03	300	35	318	94	3.38	0.097
2003-04	350	35	366	122	3.00	0.086
2004-05	400	36	444	130	3.42	0.095
2005-06	400	43	404	110	3.67	0.085
2006-07	400	31	431	107	4.03	0.130
2007-08	500	40	507	119	4.26	0.107
2008-09	500	52	508	139	3.65	0.070
2009-10	500	91	471	118	3.99	0.044
2010-11	400	91	407	112	3.63	0.040
2011-12	300	57	309	117	2.64	0.046
2012-13	300	58	302	109	2.77	0.048
2013-14	300	75	307	98	3.13	0.042
2014-15	250	90	205	89	2.28	0.025
2015-16	200	90	186	71	2.62	0.029
2016-17	200	74	208	74	2.81	0.066
2017-18	200	66	211	82	2.57	0.039
2018-19	200	71	203	73	2.78	0.039
2019-20	200	91	201	76	2.64	0.029
2020-21	200	91	126	58	2.17	0.024
2021-22	200	91	114	53	2.15	0.024
Avg. 1998-21				97	3.19	0.060
%Dev. from avg.				-40%	-32%	-60%
%Dev. from previous year				-24%	-18%	-18%

C. Trapping pressure decreased in 2021-22 probably due to a combination of lower bobcat prices, lower bobcat numbers and a warm winter with less snowfall across most of Region 5. In 2021-22 there were 53 individual trappers that caught one or more bobcats. A comparable level of trapping pressure was reached in 1995-96 (Table 3).

Table 3. Number of cats trapped by individual trappers, 1983-84 to 2021-22. Does not include reservation cats that were not applied to the quota.¹

Year	1	2	3	4	5	6	7	8	9	10	>=11	Tot ³
83-84	56 ²	26	42	0	0	0	0	0	0	0	0	124
84-85	86	33	38	0	0	0	0	0	0	0	0	157
85-86	55	20	18	0	0	0	0	0	0	0	0	93
86-87	52	22	22	0	0	0	0	0	0	0	0	96
87-88	57	32	20	0	0	0	0	0	0	0	0	109
88-89	47	38	0	0	0	0	0	0	0	0	0	85
89-90	27	25	0	0	0	0	0	0	0	0	0	52
90-91	21	5	10	0	0	0	0	0	0	0	0	36
91-92	22	10	6	10	5	3	0	0	0	0	0	56
92-93	19	13	13	6	3	6	0	0	0	0	0	60
93-94	22	17	6	8	5	4	0	0	0	0	0	62
94-95	30	19	7	4	4	2	1	0	0	0	0	67
95-96	19	16	7	2	3	2	0	0	0	0	0	49
96-97	32	11	10	6	5	1	3	0	0	0	0	68
97-98	35	17	6	11	3	3	3	0	0	0	0	78
98-99	24	10	14	4	5	2	1	1	1	2	1	68
99-00	27	7	10	9	4	2	1	1	1	1	3	64
00-01	29	18	4	9	3	4	2	3	0	0	3	75
01-02	31	12	10	6	3	4	2	1	2	2	4	77
02-03	36	21	13	4	4	3	3	2	1	2	5	94
03-04	49	22	17	11	8	5	2	4	1	1	2	122
04-05	50	23	13	10	7	9	7	5	0	2	4	130
05-06	40	19	9	12	7	5	5	4	3	3	3	110
06-07	31	19	16	12	3	6	3	3	4	3	7	107
07-08	37	19	14	14	3	5	8	7	3	3	6	119
08-09	40	29	24	14	6	5	5	3	4	3	6	139
09-10	40	23	14	4	7	7	4	2	5	6	6	118
10-11	42	16	15	12	9	4	3	4	0	1	6	112
11-12	56	22	10	12	4	6	1	0	1	1	3	117
12-13	52	23	11	4	4	3	3	2	1	1	5	109
13-14	43	20	6	7	6	3	3	1	3	3	3	98
14-15	45	16	13	7	2	2	0	1	1	0	2	89
15-16	33	14	8	3	4	4	2	0	0	0	3	71
16-17	37	15	4	4	2	4	3	0	0	1	4	74
17-18	34	17	15	5	2	2	1	1	1	0	2	80
18-19	31	17	9	4	3	3	2	0	2	0	2	73
19-20	37	17	7	5	2	3	0	0	0	1	4	76
20-21	32	11	7	4	1	0	1	0	0	0	2	58
21-22	33	7	6	1	1	2	0	0	2	1	0	53

¹Only includes cats trapped in Region 5. It is possible that some trappers caught additional cats in R-7 or R-6 where the individual quota was 10 cats.

² Number of trappers, e.g. Fifty six trappers captured one.

³Total number of trappers harvesting one or more bobcats.

D. Prices for bobcats decreased but remain profitable likely resulting in continued interest in trapping bobcats.

By the end of the 2021-22 trapping season bobcat prices had rebounded from the 2020-21 season (Table 4). Trapper numbers appear to be closely related to bobcat prices the previous year (Fig.2). As the price goes up, the number of trappers increases the following year. At a time when bobcat numbers appear to be below average and reproduction and/or kitten survival is poor, trapper interest in bobcat trapping is also beginning to decrease.

Table 4. Average price paid for Montana furbearers at the North American Fur Auction or Fur Harvesters Auction, Inc., 2000-2022.

Mo./Yr	Fisher	Wolverine	Otter	Marten	Beaver	Bobcat
9/2000	20.38	168.89	75.97	19.33	16.06	98.67
2/2001	28.62	212.94	59.17	19.95	15.98	106.05
1/2002	25.12	225.00	47.93	18.70	12.40	135.25
2/2003	25.00	225.00	75.00	19.50	14.00	203.00
5/2004	28.10	275.00	90.00	20.50	14.50	280.25
5/2005	28.25	275.00	94.00	19.50	15.25	325.00
2/2006	35.00	300.00	100.00	45.50	20.50	345.00
5/2007	74.31	217.85	80.00	61.57	23.49	257.33
3/2008	87.51	280.35	40.91	77.29	24.80	449.45
2/2009	42.83	254.67	30.85	37.58	25.21	281.35
3/2010	NA	211.42	51.10	52.57	16.74	346.54
2/2011	47.71	253.15	57.63	82.85	16.57	411.84
2/2012	100.99	319.67	102.29	116.26	38.22	426.31
2/2013	156.67	262.68	112.58	185.08	31.03	589.08
2/2014	98.83	150.00	65.46	141.93	22.50	393.49
3/2015	50.91	241.23	35.34	76.56	13.05	236.56
3/2016	NA	NA	63.35	16.37	12.54	228.28
2/2017	40.05	256.92	36.94	89.93	11.66	423.14
2/2018	46.01		31.58	87.79	12.15	379.00
2/2019	37.28	348.26	20.31	84.91	10.46	391.53
2/2020	NA	NA	NA	NA	NA	NA
4/2021	16.54	303.65	16.44	49.38	14.19	197.94
3/2022	28.29	353.93	19.71	40.58	11.80	321.00

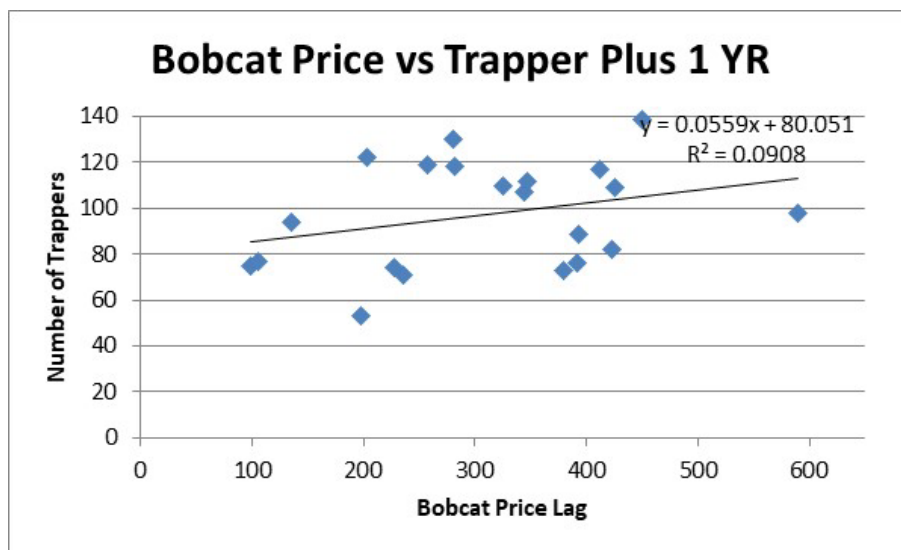


Figure 2. Relationship between average bobcat fur price and the number of successful trappers in Region 5 the following year.

E. Rabbit numbers have rebounded this year, but due to the lag effect bobcat numbers will likely take a year or more to show an increase in population across most of Region 5.

In 2022, biologists traveled 560 miles in Region 5 counting the numbers of rabbits along those routes. Every rabbit route in Region 5 had below average number of rabbits. The numbers on Silver Tip will likely continue to decrease because we have a few more counts to complete on that route this spring. Rabbit numbers have greatly decreased across most of Region 5 with several rabbit routes showing record low numbers. Anecdotal observations in areas other than the locations of rabbit routes indicate a sizable decrease in cottontail rabbits in the Roundup, Harlowton, Big Timber, and Red Lodge areas.

Table 5. Comparison of rabbit routes between 1996 and 2022.

Year	Castle/Steamboat		E. Red	Silver	Valley	Tin Can	Average
	Butte ¹	Alec Roy ¹	Hill ¹	Tip ¹	Creek ¹	Hill ¹	
1996	NA	26.7	21.2	59.5	NA	6.5	28.5
1997	NA	22.7	27.3	59.5	NA	8.1	29.4
1998	NA	21.0	4.0	194.4	NA	7.4	56.7
1999	NA	40.1	33.3	269.8	NA	16.7	90.0
2000	NA	108.4	69.7	NA	NA	16.7	64.9
2001	NA	82.5	42.5	59.5	NA	26.5	52.8
2002	NA	37.2	97.0	131.0	NA	15.7	70.2
2003	NA	45.3	28.3	113.7	NA	0.0	46.8
2004	NA	38.8	36.4	105.4	NA	5.9	46.6
2005	13.3	63.1	50.5	103.2	0.0	8.9	39.8
2006	18.8	60.7	66.7	190.5	8.0	13.8	59.8
2007	11.9	35.0	78.9	525.4	8.0	24.6	114.0
2008	20.2	53.4	82.8	1105.8	5.4	26.5	215.7
2009	6.6	25.9	20.2	315.9	5.4	26.5	66.8
2010	4.8	3.2	12.1	43.7	7.1	12.8	14.0
2011	4.2	4.9	34.3	14.1	3.6	27.5	14.8
2012	8.3	19.4	30.3	14.1	2.7	30.5	17.6
2013	6.5	26.7	18.2	42.3	3.6	21.6	19.8
2014	6.0	25.9	22.7	35.7	9.4	27.5	21.2
2015	13.4	87.4	63.6	100.5	16.1	67.8	58.1
2016	8.9	96.3	78.8	192.5	7.1	103.2	81.1
2017	7.1	48.5	42.4	49.2	4.5	25.6	29.6
2018	2.4	48.5	14.1	27.0	2.7	16.7	18.6
2019	4.8	9.7	4.0	17.5	5.4	7.9	8.2
2020	9.5	36.4	30.3	31.7	2.7	6.9	19.6
2021	2.4	24.3	9.1	11.1	1.8	7.9	9.4
2022	1.8	27.5	16.7	25.8	4.5	2.0	13.0
Avg. 1996-21	8.8	42.0	39.3	155.1	5.5	21.5	50.2
Dev. from Avg	-80%	-35%	-58%	-83%	-19%	-91%	-74%
Dev. from Prev. yr.	-26%	13%	83%	132%	148%	-75%	39%

¹ Number of rabbits observed per 100 miles of road traveled.

3. What is the current population's status in relation to the management objectives? (i.e., state management objectives from management plan if applicable; provide current and prior years of population survey, harvest, or other pertinent information).

There are no management objectives or a statewide management plan for bobcats. However, we would like to increase the population from its current number to a level closer to the long-term average.

4. **Provide information related to any weather/habitat factors that have relevance to this change (i.e., habitat security, hunter access, vegetation surveys, weather index, snow conditions, temperature / precipitation information).**

None.

5. **Briefly describe the contacts you have made with individual sportsmen or landowners, public groups or organizations regarding this proposal and indicate their comments (both pro and con).**

Discussions with local trappers suggest that trappers are in favor of decreasing the bobcat quota. No trappers have suggested to FWP to increase the quota in R5.

Submitted by: Ashley Taylor

Date: 05/6/2022