

State of California
Natural Resources Agency
Department of Fish and Wildlife
Wildlife and Fisheries Division
Wildlife Branch

BOBCAT HARVEST ASSESSMENT

2013-14

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ABSTRACT

An estimated 1,639 bobcats were taken during the 2013-14 license year. Trappers took 1,292 bobcats, sport hunters took 308, and U.S. Department of Agriculture, Wildlife Services took 39. The total take increased 2 percent from the 2012-13 year take of 1,607. The average pelt price was reported this year as \$390.00 (Table 4). The number of successful bobcat trappers increased from 80 as reported in 2012-13, to 93 during the 2013-14 season.

Data on the bobcat harvest were gathered through the process of tagging bobcat furs for export, the annual trapping report, bobcat hunter hunting tag reports, and U.S. Department of Agriculture, Wildlife Services records.

INTRODUCTION

The annual bobcat harvest increased in the 1960s and continued through the late 1970s. This increase was brought about by high fur prices. The sale of bobcat pelts provided the most income to trappers of any species trapped and sold in California since the 1975-76 season. In order to determine the magnitude of the bobcat harvest and the effects on bobcat populations in the state, several studies were initiated. Field studies of local population dynamics were conducted on un-harvested populations in Siskiyou, Riverside and San Diego counties and on a harvested population in San Diego County. Also, a statewide harvest monitoring program was initiated to determine the age, sex structure, and harvest of bobcats on a regional basis. Currently, only the harvest is being monitored as harvest levels have been low since 1981-82.

Public interest in the bobcat increased in the early 1970s on both domestic and international fronts due to an increase in the demand for bobcat pelts. Prior to 1971, the bobcat in California was a non-protected mammal, and there were no restrictions on its take. In 1971, this species was given non-game status by the California Legislature.

In 1973, the United States became party to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). The treaty restricted trade in endangered species and established procedures to monitor the trade of other species that might be faced with endangerment in the future. The bobcat was one of the species selected by the parties to the treaty as a possible candidate for future endangerment, primarily because of concern for the Mexican bobcat. The Endangered Species Scientific Authority (ESSA) was established as the scientific body to monitor the bobcat's status in the United States, and the U.S. Fish and Wildlife Service (USFWS) was given authority over trade as provided in the treaty.

In 1974, a six month season was established for the take of bobcats. This season was reduced to the standard 3½ month furbearer season in 1976.

In 1977, The Defenders of Wildlife petitioned the Secretary of Interior to place the bobcat on the endangered species list. This action was taken because of the high demand and prices for bobcats at that time. The Secretary of Interior found that Defender's petition was not warranted. Also in 1977, the California Fish and Game Commission enacted regulations that required pelts from bobcats taken for commercial purposes under a trapping license, be tagged with a USFWS shipping (export) tag. This was done to comply with the provisions of CITES, as the bobcat had recently been designated an Appendix 2 species. The issuance of export tags allows the Department to closely monitor the take and sale of bobcat pelts.

In November 1979, Defenders brought suit against the ESSA, claiming that ESSA did not make its findings based on biological information. The suit was heard in December, and the court reversed ESSA's findings for several states, but not for California. Later, the

ESSA was dissolved, and responsibility was transferred to the USFWS Office of Scientific Authority (OSA). OSA was given responsibility for scientific monitoring. OSA reviewed California's biological data and analysis that resulted from several years of harvest monitoring field studies of the bobcat. California's pre-breeding estimate of 72,000 adult bobcats, and harvest quota of 14,400 animals per year was approved by OSA.

Defenders of Wildlife appealed the Court's ruling. This resulted in a court order that prohibited the export of bobcat pelts taken after July 1, 1982. This ban was imposed until OSA could satisfy the court that export of bobcat pelts was based on reliable population estimates, and that each state would enforce a predetermined take limit. During 1982, there was legislative redefinition of the Endangered Species Act which effectively voided the court's ban on export. On December 1, 1982, the export ban was lifted and the major European market was reopened.

During the 1978-79 trapping season, the export tag quota of 14,400 animals was reached by the end of January, effectively shortening the season by one month. During 1979-80, the trapping season was reduced to 2½ months but was closed on December 29, 1979, one month earlier than proposed because the quota of export tags had been reached once again.

For the 1980-81 season, the state was divided into three trapping zones, each with a different season length, depending on the status of the local bobcat populations. These regulations were a result of previous research and monitoring efforts. The 1981-82 season length was increased by one week, except in the northeastern California zone, in order to have the bobcat trapping season coincide with the trapping season on gray fox. In northeastern zone it was determined that if the local commercial harvest increases to more than 425 for two successive seasons, additional management action will be taken based on the need to document and monitor the age and sex structures of this population. In 1982-83, the northeastern California trapping season was set back two weeks, and its length was increased by one week.

The season limit for hunting bobcats was set at two for the 1980-81 hunting season and increased to five for the 1984-85 season. Prior to 1982-83, the hunting season length and timing coincided with the trapping (commercial) season. In 1982-83, the hunting season was extended by two weeks past the end of the trapping (commercial) season in Del Norte, Humboldt, Kern, Lake, Mendocino, Trinity, and San Diego counties. For the 1985-86 season, the hunting season was extended statewide to open one week before the commercial season through February 15.

In 1993, legislation was introduced (Assembly Bill 380) to ban the hunting and trapping of bobcats in California. That proposed legislation did not pass.

Bobcat hunting and trapping regulations were again adjusted for the 1994-95 season. The season lengths of all three trapping zones were made the same, and ran from

November 24 through January 31. The hunting season was adjusted to run from October 15 through February 28, statewide. The reason for this action was to provide more opportunity for hunters and trappers. The total bobcat take in recent years has been substantially less than 20 percent of the OSA quota, and therefore is not in danger of over harvest.

On November 3, 1998, California voters passed Proposition 4. This proposition specifically bans the use of all body-gripping traps, including leg-hold and Conibear type traps.

On September 26th 2012, Governor Jerry Brown signed into law legislation to prohibit the use of dogs for the purpose of hunting, pursuing, running or chasing bobcats at any time. This legislation took effect January 1, 2013 and now authorizes the use of not more than three dogs to pursue bobcats pursuant to the issue of a depredation permit by the California Department of Fish and Wildlife. The bill also authorizes the Department to initiate a hound tag program imposing prescribed requirements on the licensure and use of hounds to pursue mammals.

Since 1982, the bobcat harvest has been monitored closely; the results of this monitoring for the 2013-14 season are discussed in this report.

OBJECTIVES

1. Determine the annual bobcat harvest on a regional basis.
2. Use this information, along with previously gathered information on bobcat biology and population dynamics, to manage local populations by manipulating season lengths and chronology, take methods, and harvest limits.

METHODS

The commercial take is determined through assessment of mandatory annual reports of licensed trappers and an export tagging program for all bobcat furs. Commercial fur trappers report their take at the end of each license year (fiscal year), giving the quantity of take of each species by county. Anyone possessing or wishing to sell or to transport a bobcat fur must have it tagged. As part of the tagging process, the trapper must supply information on the place, date, and method of take.

Information on hunting is gathered through the sale of hunting tags and their return. Hunters of bobcat are required to report their kill and provide information on their take.

All depredation take must be reported to the Department. This information is reported directly by the person taking the bobcat or by the public agencies responsible for the depredation control work.

RESULTS

For the 2013-14 season, the total estimated take of bobcats was 1,639 individuals (Table 1). This was a 2 percent increase from the 2012-13 season. Commercial trappers accounted for the majority of bobcats harvested (1,292). The total sport hunter take of 308 (Table 1) was 5 percent less than 2012-13. Commercial trappers took bobcats in 30 counties.

TABLE 1						
Estimated Annual Take of Bobcats by Hunting and Trapping in California						
1983-1984 to 2013-2014						
Season	Total Commercial Take (IA+IB)	Commercial Trapper Take** (IA)	Commercial Hunter Take (IB)	Total Hunter Take (II)	Wildlife Services Take* (III)	Total Annual Take (IA+IB+II+III)
1983-84	7,362	6,576	786	2,077	43	9,482
1984-85	8,897	7,495	1,402	2,993	48	11,938
1985-86	8,099	6,927	1,172	2,861	36	10,996
1986-87	9,123	8,003	1,120	1,739	44	10,906
1987-88	8,994	8,017	977	2,773	47	11,814
1988-89	5,586	4,877	709	1,778	52	7,416
1989-90	2,980	2,677	303	715	63	3,758
1990-91	1,148	962	186	881	46	2,075
1991-92	1,089	1,089	0	401	12	1,502
1992-93	1,039	1,039	0	342	48	1,429
1993-94	1,148	1,148	0	451	50	1,649
1994-95	1,319	1,319	0	488	62	1,869
1995-96	660	660	0	410	61	1,131
1996-97	1,066	1,066	0	429	78	1,573
1997-98	1,165	1,165	0	426	99	1,690
1998-99	224	224	0	353	113	690
1999-00	182	182	0	352	97	631
2000-01	190	190	0	414	72	676
2001-02	214	214	0	295	71	580
2002-03	394	394	0	342	63	799
2003-04	429	429	0	268	65	762
2004-05	506	506	0	261	41	808
2005-06	627	627	0	265	46	938
2006-07	885	885	0	317	60	1,262
2007-08	641	641	0	336	74	1,051
2008-09	623	623	0	281	79	983
2009-10	457	457	0	251	54	762
2010-11	893	893	0	240	64	1,197
2011-12	1,499	1,499	0	255	59	1,813
2012-13	1,214	1,214	0	324	69	1,607
2013-14	1,292	1,292	0	308	39	1,639

*Federal fiscal year data is from 10-1 to 9-30, all other data in this table is from 7-1 to 6-30.

**Totals taken from annual trapper reports, starting with 2001.

Information on the extent and distribution of the sport hunting take of bobcats is gathered through the hunting tag program. Obtaining these tags and returning them to the Department upon taking bobcat are legal requirements of bobcat hunters. Three hundred and eight were returned to the Department. The hunting take by county is shown in Table 2.

**TABLE 2
Bobcat Take by County
2013-2014 Season**

COUNTY	LICENSED TRAPPERS	SPORT HUNTERS	WILDLIFE SERVICES	TOTAL
Alameda		2		2
Alpine				0
Amador				0
Butte		6		6
Calaveras		5		5
Colusa	4	6		10
Contra Costa				0
El Dorado	1	5	2	8
Fresno		9		9
Glenn	12	4		16
Humboldt	1	2		3
Imperial		9		9
Inyo	156	1		157
Kern	268	33	6	307
Lake	14	4		18
Lassen	26	8		34
Los Angeles	55	4		59
Madera	22	7		29
Marin		3		3
Mariposa	10	5	5	20
Mendocino		3	3	6
Merced				0
Modoc	96	5		101
Mono	76	1		77
Monterey		12	1	13
Napa		6	3	9
Nevada	3	3		6
Orange		2		2
Placer		2	3	5
Plumas	7	5		12
Riverside	40	13		53
Sacramento		1		1
San Benito	6	9		15
San Bernardino	253	22		275
San Diego		24	8	32
San Joaquin		1		1
San Luis Obispo	32	8		40
Santa Barbara	2	11		13
Santa Clara		4		4
Santa Cruz		2		2
Shasta	35	9	1	45
Sierra	5			5
Siskiyou	130	3	1	134
Solano		2		2
Sonoma	1	6	1	8
Sutter		1		1
Tehama	7	12		19
Trinity	1	4		5
Tulare	23	13		36
Tuolumne	1	4	5	10
Unknown	3	1		4
Ventura		2		2
Yolo	2	1		3
Yuba		3		3
Total	1,292	308	39	1,639

Among ten geographic regions of the state, the commercial take of bobcats increased in six regions and decreased in four regions for the 2013-14 trapping year (Table 3). The Northeast Area bobcat take decreased by 34% from 313 (2012-13) to 207 (2013-14) and overall, commercial harvest increased 8% from 1,189 (2012-13) to 1,289 (2013-2014).

TABLE 3											
Geographical Differences in the COMMERCIAL Bobcat Harvest in California											
2008-2009 TO 2013-2014											
AREA	2008- 2009 Take	<i>Annual % Change</i>	2009- 2010 Take	<i>Annual % Change</i>	2010- 2011 Take	<i>Annual % Change</i>	2011- 2012 Take	<i>Annual % Change</i>	2012- 2013 Take	<i>Annual % Change</i>	2013- 2014 Take
Northeast*	155	-17	128	<i>123</i>	285	76	503	-38	313	-34	207
Northwest*	58	-5	55	<i>63</i>	90	37	123	10	135	-29	96
North Coast	68	-79	14	7	15	67	25	-20	20	65	33
Central Coast	0	0	0	0	0	0	0	900	9	-900	0
North Sierra	0	100	1	-100	0	200	2	1200	26	-69	8
Central Sierra	9	-900	0	0	0	0	0	200	2	500	12
East Sierra	120	-14	103	-19	83	133	193	16	223	4	232
South Coast	38	-50	19	111	40	108	83	-86	12	233	40
South Sierra	134	-26	99	86	184	7	196	-24	148	111	313
Southern California	41	-7	38	416	196	86	365	-18	301	16	348
TOTAL	623	-27	457	43	893	226	1,490	-20	1,189	8	1,289
*Northeast Geographic region includes 60% of Siskiyou county and Northwest contains 40% Siskiyou county											

The average price of a bobcat pelt dropped by about 88 percent in the two years prior to 1990-91. It dropped from an all-time high of \$167.33 in 1986-87 to \$17.91 in 1989-90 (Table 4). During 1990-91, the pelt price increased to \$49.50. There was no national or international regulatory action pending which might have influenced the demand for bobcat furs. The market appeared saturated during 1989-90 and 1990-91. During 1991-92, the price increased to \$71.32, but in 1992-93 the price dropped again to \$43.92. In 1993-94, the average price paid for California bobcat pelts dropped to \$40.44. In 1994-95, the pelt price again dropped by 39 percent to \$24.72. In 1995-96, the average pelt price increased to \$33.66. In 1996-97, the price again dropped by 39 percent to \$24.72. In 1995-96, the average pelt price increased to \$33.66. In 1996-97 the price again increased to \$75.24. For the period of 1997 to 2001, the average price paid for bobcat pelts was about \$33.00. The price increased 74 percent in 2001-02 and another 182 percent in 2002-03. In 2003-04 the average pelt price for bobcats decreased by about 20 percent, from \$186.27 to \$148.75. The 2004-05 average price for a bobcat pelt increased 7.5 percent from \$148.75 to \$160.00. During 2005-06, the price of bobcat pelts increased 22 percent to \$194.50, while the 2006-2007 average price for a bobcat pelt dropped 52 percent to \$92.86. In 2007-08, the price rose 45 percent to \$134.57 but dropped 42 percent to \$78 average pelt price in 2008-09. Pelt prices were not reported for 2009-10, 2010-11, and 2012-13. When compared to 2008-09, the average pelt price in 2011-12 rose 365 percent to \$362.68 and further increased 8 percent to \$390.00 in 2013-14 (Table 4).

During the 2013-14 trapping year, the number of successful bobcat trappers was 93. In the last 24 years, the highest number of bobcat trappers was 303 in the 1989-90 season.

TABLE 4
Fur Dealer Reported Bobcat Pelt Prices
1980-1981 to 2013-2014

Season	Average Price	Highest Price
1980-81	\$129.90	\$325.00
1981-82	\$114.53	\$325.00
1982-83	\$105.85	\$342.11
1983-84	\$102.33	\$380.00
1984-85	\$121.96	\$368.00
1985-86	\$107.86	n/a
1986-87	\$167.33	n/a
1987-88	\$142.73	n/a
1988-89	\$102.31	n/a
1989-90	\$17.91	n/a
1990-91	\$49.50	\$125.00
1991-92	\$71.32	\$74.15
1992-93	\$43.92	\$94.00
1993-94	\$40.44	\$70.20
1994-95	\$24.72	\$35.00
1995-96	\$33.66	\$37.61
1996-97	\$75.24	\$82.00
1997-98	\$31.11	\$32.10
1998-99	\$30.55	\$33.36
1999-00	\$32.06	\$35.00
2000-01	\$38.47	n/a
2001-02	\$66.00	n/a
2002-03	\$186.27	n/a
2003-04	\$148.75	n/a
2004-05	\$160.00	n/a
2005-06	\$194.50	n/a
2006-07	\$92.86	\$100.00
2007-08	\$134.57	n/a
2008-09	\$78.00	n/a
2009-10	\$0.00	n/a
2010-11	\$0.00	n/a
2011-12	\$362.68	n/a
2012-13	\$0.00	n/a
2013-14	\$390.00	n/a

The export tag data indicated that the commercial take of bobcats was primarily with the use of traps (94 percent; Tables 5 and 6), and totaled one thousand, two hundred and eighty nine animals.

TABLE 5
Methods of COMMERCIAL Bobcat Take*
2013-2014

COUNTY	CALL	DOGS	HUNTING	TRAPPING	MISC.**	TOTAL
Colusa	3			1		4
El Dorado					1	1
Glenn				12		12
Humboldt				1		1
Inyo	10			146		156
Kern	17			251		268
Lake				14		14
Lassen	4			22		26
Los Angeles				55		55
Madera	3			19		22
Mariposa				10		10
Mendocino						0
Modoc	2			94		96
Mono	7			69		76
Nevada	1			2		3
Plumas				7		7
Riverside				40		40
San Benito				6		6
San Bernardino	11			242		253
San Luis Obispo				32		32
Santa Barbara				2		2
Shasta	4			31		35
Sierra	5					5
Siskiyou	3			127		130
Sonoma	1					1
Tehama	1			6		7
Trinity				1		1
Tulare	1			21	1	23
Tuolumne				1		1
Yolo				2		2
TOTAL	73	0	0	1,214	2	1,289
PERCENTAGE	6	0	0	94	0	100

* Values are taken from Export Tagging data, the total value reported will be different than the Trapper Report data value for total animals harvested. **Misc = Unknown Take Method

TABLE 6 Method of COMMERCIAL Take of Bobcats 1986-1987 TO 2013-2014 Method of Take: <i>Percent of Statewide Total</i>						
SEASON	Call	Dogs	Trap	Hunting	Misc.	Total (%)
1986-87	0.8	10.6	83.4	0.8	4.3	100
1987-88	1.1	9.6	88.5	0.6	0.2	100
1988-89	0.9	11.8	85.5	0.4	1.5	100
1989-90	0.7	7.8	89.9	1.6	-	100
1990-91	2.4	13.2	83.7	0.5	0.2	100
1991-92	1.2	19.8	77.2	1.7	0.1	100
1992-93	0.6	19.2	75.6	4.5	0.1	100
1993-94	1.7	9.8	87.8	0.5	0.2	100
1994-95	2.9	15.5	78.7	2.7	0.2	100
1995-96	4.9	14.0	81.1	0.0	-	100
1996-97	8.9	16.6	73.5	0.6	0.4	100
1997-98	1.0	25.0	69.0	5.0	-	100
1998-99	2.0	61.0	28.0	9.0	-	100
1999-00	8.0	39.0	49.0	3.0	0.5	100
2000-01	12.6	44.2	40.0	3.2	-	100
2001-02	2.6	28.5	64.7	3.7	0.5	100
2002-03	5.5	14.8	68.9	10.8	-	100
2003-04	12.0	30.0	50.0	8.0	-	100
2004-05	14.0	22.0	63.0	1.0	-	100
2005-06	20.0	9.0	70.0	1.0	-	100
2006-07	21.5	9.5	64.9	2.9	1.2	100
2007-08	2.5	23.0	64.8	3.5	6.3	100
2008-09	13.3	5.7	64.7	13	3.2	99.9
2009-10	2.2	13.3	79.2	0.0	5.3	100
2010-11	4.4	18.1	62.9	2.3	12.4	100
2011-12	3.5	9.1	80.4	3.0	4.0	100
2012-13	7.0	3.6	82.5	0.0	6.9	100
2013-14	5.7	0.0	94.2	0.0	0.2	100

DISCUSSION

The total bobcat harvest for the 2013-14 season increased 2 percent from 2012-13. The number of successful bobcat trappers was 93. Pelt prices were reported as \$390.00. Since the 1981-82 season, the harvest has remained below the 14,400 statewide harvest limit. Harvest monitoring will continue. The bobcat take in northeastern California has been monitored annually since 1980-81, based on the need to document and monitor the age and sex structures of this population. If the commercial harvest in this local area increases to more than 425 for more than two successive seasons, additional management action will be taken to determine the effects on that population. In 2013-14, the harvest of 259 bobcats in the Northeastern region fell below the harvest limit of 425 (Table 7).

TABLE 7					
Recent COMMERCIAL Harvest of Bobcats in Northeastern California					
Season	Siskiyou	Modoc	Lassen	Plumas	Total
1984-85	54	231	188	33	506
1985-86	78	181	108	23	390
1986-87	78	237	139	60	514
1987-88	148	223	187	43	601
1988-89	60	107	85	30	282
1989-90	36	62	85	47	230
1990-91	22	30	29	9	90
1991-92	25	39	24	0	88
1992-93	40	47	24	0	111
1993-94	30	57	22	15	124
1994-95	56	116	63	1	236
1995-96	36	53	21	12	122
1996-97	88	78	43	12	221
1997-98	98	120	89	0	307
1998-99	41	31	8	3	83
1999-00	26	39	4	0	69
2000-01	48	46	1	0	95
2001-02	11	89	4	0	104
2002-03	37	103	59	0	199
2003-04	31	184	27	5	247
2004-05	71	150	37	4	262
2005-06	53	190	31	4	278
2006-07	163	186	81	0	430
2007-08	178	106	23	7	314
2008-09	63	85	19	13	180
2009-10	42	40	63	0	145
2010-11	127	153	56	0	336
2011-12	237	197	56	108	598
2012-13	217	151	32	0	400
2013-14	130	96	26	7	259

RECOMMENDATION

Continue to monitor the take of bobcats by geographical area, and use that information to determine the management needed to maintain viable bobcat populations throughout California.