

State of California
THE RESOURCES AGENCY
Department of Fish and Game
Wildlife Programs Branch

BOBCAT HARVEST ASSESSMENT

2002-03

by

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November 2003

ABSTRACT

An estimated 702 bobcats were taken during the 2003 hunting year and the 2003-04 trapping season. Trappers took 429 bobcats, and sport hunters took 273. The total take was a decrease of 14 percent from the 2000-01 year. The average pelt price increased from \$38.47 last year to \$66.00 this year (Table 4). The number of bobcat trappers increased from 18 to 24.

Data on the bobcat harvest were gathered through the process of tagging bobcat furs for export, the annual trapping report and bobcat hunter report cards, 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 unharvested 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 because the harvest and demand 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 nongame 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 allow 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 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 length of the 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 leghold and conibear type traps.

Since 1982, the bobcat harvest has been monitored closely; the results of this monitoring for the 2001-02 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 2003-04 season, the total estimated take of bobcats was 702 individuals (Table 1). This was a 21 percent increase over the 2002-03 trapping year. Commercial trappers accounted the majority of bobcats harvested. The total sport hunter take of 273 (Tables 1 and 2) was 7% less than 2002-03. Commercial trappers took bobcats in 17 counties.

TABLE 1
Estimated Annual Take of Bobcats by Hunting and Trapping in California
1981-82 to 2003-04

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+II+III)
1981-82	9,337	8,162	1,175	3,037	34	11,233
1982-83	8,513	7,427	1,086	2,951	48	10,426
1983-84	7,362	6,576	786	2,077	43	8,696
1984-85	8,897	7,495	1,402	2,993	48	10,536
1985-86	8,099	6,927	1,172	2,861	36	9,824
1986-87	9,123	8,003	1,120	1,739	44	9,786
1987-88	8,994	8,017	977	2,773	47	10,837
1988-89	5,586	4,877	709	1,778	52	6,707
1989-90	2,980	2,677	303	715	63	3,455
1990-91	1,148	962	186	881	46	1,889
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	214 **	214	0	295	71	580
2003-04	429**	429	0	273		

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

** Total from annual trapper reports.

TABLE 2 – Bobcat Take by County 2003-04

County	Licensed Trappers	Sport Hunters	Wildlife Services	Total
Alameda				
Amador	27	3		
Butte		3		
Calaveras		4		
Colusa	4	2		
Del Norte				
El Dorado		7		
Fresno		20		
Glenn		4		
Humboldt	5	1		
Imperial		11		
Inyo	10	12		
Kern	12	28		
Lake	2			
Lassen	12	15		
Los Angeles	17	5		
Madera		3		
Marin				
Mariposa		5		
Mendocino	173	9		
Merced				
Modoc		11		
Mono		10		
Monterey		5		
Napa		2		
Nevada		3		
Orange		1		
Placer		3		
Plumas		5		
Riverside	8	1		
San Benito		6		
San Bernardino	39	16		
San Diego		6		
San Joaquin		3		
San Luis Obispo		3		
San Mateo				
Santa Barbara		3		
Santa Cruz				
Shasta	21	11		
Sierra		3		

Siskiyou	48	12
Solano		
Sonoma	1	
Stanislaus		2
Sutter		
Tehama		5
Trinity	12	2
Tulare	34	16
Tuolumne		5
Ventura		1
Yuba		1
Total	429	273

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. Two hundred seventy-three were returned to the Department. The hunting take by county is shown in Table 2.

The 2003-04 commercial take of bobcats decreased in two of the geographic regions (Table3). The Northeast region bobcat take increased from 95 (2000-01) to 104 (2001-02), but is still well below the management threshold quota of 425 animals.

TABLE 3
Geographical Differences in the Commercial Bobcat Harvest in California
1996-97 to 2001-02

AREA	96-97	%	97-98	%	98-99	%	99-00	%	00-01	%	01-02
	TAKE	CHANGE	TAKE	CHANGE	TAKE	CHANGE	TAKE	CHANGE	TAKE	CHANGE	TAKE
Northeast	221	38.9	307	-73	83	-17	69	38	95	9	104
Northwest	157	31.2	206	-80	42	-2	41	0	41	-2	40
North Coast	61	1.64	62	-90	6	117	13	-54	6	17	7
Central Coast	0	N/A	0	N/A	2	50	3	-100	0	N/A	0
North Sierra	5	-100	0	N/A	0	N/A	0	N/A	4	N/A	0
Central Sierra	13	23.1	16	43.8	23	-52	11	-100	0	100	11
East Sierra	66	18.2	78	-100	0	100	5	200	15	-40	6
South Coast	105	-5.7	99	-94	6	-50	3	-100	0	N/A	0

South Sierra	233	-11	208	-89	22	23	27	-30	8	200	17
Southern California	205	-7.8	189	-79	40	-75	10	110	21	38	29
TOTAL	1066	9.29	1165	-81	224	-19	182	4	190	13	214

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 5). 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 past four years, the average price paid for bobcat pelts was about \$33.00. In 2001-02 the average pelt price for bobcats increased by about 42%.

During the 2001-02 year the number of bobcat trappers was twenty-four, up from eighteen last year. In the last 12 years, the highest number of bobcat trappers was 124 in the 1990-91 season (Table 5).

Season	Average Price	Highest Price
1978-79	120.00	426.00
1979-80	114.20	313.00
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	Not available
1986-87	167.33	Not available
1987-88	142.73	Not available
1988-99	102.31	Not available
1989-90	17.91	Not available
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	38.47
2001-02	66.00	66.00
2002-03	186.27	186.27
2003-03	148.75	148.75

Table 5 indicates that there were less than ten bobcat trappers in any county.

TABLE 5 Average Bobcat Harvest per Successful Trapper per Season in California *												
COUNTY	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04
Fresno												
Humboldt												
Kern			11.1									
Lassen			6.3			8.9						
Los Angeles												
Modoc			10.5									
Monterey												
Riverside												
San Bernardino	16.5	14.6	11.7	8.1	9.7	6.8						
San Diego												
San Luis Obispo												
Shasta												
Siskiyou	9.1		14.0		8.1	10.9	10.3**					
Tulare												
Ventura												
Statewide	10.71	13.67	8.61	10.1	11.3	9.0	10.2	N/A	N/A	N/A	N/A	N/A

# Trappers Harvesting	97	84	102	62	94	91	22	22	18	24	31	37
# Trappers Licensed	338	300	313	257	282	292	170	79	76	211	127	191

* Data from counties and years where more than 10 trappers per county reported.
 ** Six trappers reporting

The commercial take of bobcats was primarily with the use of traps (65 percent) (Tables 6 and 7). Twenty-nine bobcats were taken by trapping. Less than three percent were taken through the use of a predator call. Predator calling is used occasionally as a hunting method by persons holding a commercial trapper's license.

COUNTY	METHOD					SAMPLE SIZE
	CALLING	DOGS	HUNTING	MISCELLANEOUS	TRAPPING	
Colusa	0	0	0	0	4	41
El Dorado	0	0	0	0	10	10
Fresno	0	0	40	0	4	4
Glenn	0	0	0	0	4	4
Humboldt	0	9	0	0	1	1
Kern	0	0	1	0	6	7
Lassen	0	2	0	0	9	11
Los Angeles	0	0	0	0	2	2
Madera	0	0	2	0	0	2
Modoc	5	22	0	0	61	88
San Bernardino	0	0	0	0	10	10
Santa Barbara	0	0	0	0	7	7
Shasta	0	17	0	1	0	18
Siskiyou	0	12	0	0	1	13
Trinity	0	0	0	0	5	5
TOTAL	5	53	7	1	120	186 *
PERCENTAGE	2.6	28.5	3.7	0.5	64.7	100.0

* Total agrees with the number of export tags sold.

SEASON	Method of Take (percent of total statewide take)						Total %
	Trap	Dogs	Calling	Other Hunt	Misc.	Unknown	
1983-84	89.0	9.3	0.4	1.1	0.2	< 0.1	100.0

1984-85	82.8	13.5	0.7	1.7	0.3	1.0	100.0
1985-86	85.1	13.2	0.6	0.7	0.1	0.3	100.0
1986-87	83.4	10.6	0.8	0.8	0.1	4.2	99.9
1987-88	88.5	9.6	1.1	0.6	0.1	0.1	100.0
1988-89	85.5	11.8	0.9	0.4	0.1	1.4	100.1
1989-90	89.9	7.8	0.7	1.6	-	-	100.0
1990-91	83.7	13.2	2.4	0.5	0.2	-	100.0
1991-92	77.2	19.8	1.2	1.7	0.1	-	100.0
1992-93	75.6	19.2	0.6	4.5	0.1	-	100.0
1993-94	87.8	9.8	1.7	0.5	0.2	-	100.0
1994-95	78.7	15.5	2.9	2.7	0.2	-	100.0
1995-96	81.1	14.0	4.9	0	0	-	100.0
1996-97	73.5	16.6	8.9	0.6	0.3	0.1	100.0
1997-98	69.0	25.0	1.0	5.0	0	0	100.0
1998-99	28.0	61.0	2.0	9.0	0	0	100.0
1999-00	49.0	39.0	8.0	3.0	0.5	0	99.5
2000-01	40.0	44.2	12.6	3.2	0	0	100.0
2001-02	64.7	28.5	2.6	3.7	.5	0	100.0

DISCUSSION

The total bobcat harvest increased in the 2003-04 season from 2002-03. The number of bobcat trappers increased from thirty-one to thirty-seven. Pelt prices were down about 20 percent.

Since the 1982-83 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 the 425 for more than two successive seasons, additional management action will be taken to determine the effects on that population. The harvest has been below 425 for the last thirteen seasons (Table 8).

TABLE 8 Recent Commercial Harvest of Bobcats in Northeastern California					
Season	County				Total Northeastern California
	Eastern Siskiyou	Modoc	Lassen	Plumas	

1983-84	45	182	84	17	328
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	0.00	88
1992-93	40	47	24	0.00	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	0	0	0	0	0
2003-04	60	184	27	5	276

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.