



COUGAR: Table of Contents

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Overview

Once hunted as a predator and nuisance animal for bounty, the cougar (*Puma concolor*) received game mammal status in 1967. Since then cougar numbers have increased under a more conservative harvest strategy. However, larger cougar populations and statutory changes to management alternatives have increased the complexity of cougar management.

The largest member of the cat family in Oregon, the cougar (*Puma concolor*), is known by many names: panther, puma, catamount, mountain lion, and most commonly, cougar. Historically, the cougar had one of the most extensive distributions of any North American wildlife species. The cougar is a secretive animal that is perceived by many as a symbol of wilderness and the western backcountry.

Although few people have the opportunity to see a cougar, increased observations, road kill incidents, and increasing damage complaints indicate the statewide cougar population has increased substantially since 1980.

Life History

Wild cougar in good health are usually sexually mature by 24 months of age, and normally give birth by the age of 36 months. Few cougar live past the age of 10-12 years in the wild; however, several as old as 17 years have been turned in to ODFW in recent years. Cougar breed year-round, but studies in Nevada, Utah, Idaho, and here in Oregon reported that most births occurred during late spring and summer following an approximate 90-day gestation period. This "pulse" in mountain lion births generally coincides with the spring birth pulse in prey species such as deer and elk. Most females give birth at approximately 24-month intervals, with some giving birth every 12-15 months.

Female cougar may have 1 to 6 young per litter. Studies in Oregon show an average of 2.8 kittens per litter. Cougar can quickly replace individuals lost from the population because of their relatively high reproductive potential. The recruitment trend of the cougar population is a significant factor in developing management strategies, harvest seasons, and quotas.

Cougar populations should stabilize as they approach carrying capacity, which is determined by prey abundance, habitat, and social tolerance between cougars. Cougar kittens remain with their mothers until 15-24 months of age. Once separated from their

Cougar

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mothers, kittens, or sub-adults, will search for a new territory. If these dispersing animals survive, they will ultimately establish a home range of 50 to 200 square miles. Sub-adult males typically disperse farther than females, and may establish a home range as far as 100 miles from the area where they were born. Males generally use larger areas (up to 200 sq. mi.) than females, and their territories usually overlap those of one or more females.

Adult males on established territories generally do not tolerate other males within their home range. Dispersal of kittens or sub-adults is an important factor in maintaining cougar populations by replacing cougar in vacated areas. This dispersal period is a dangerous time for young cougars. Studies indicate that cougar kill each other at fairly high rates. Long-term livestock depredation and dispersal into human population areas may occur when the natural habitats become occupied as cougar populations approach carrying capacity.

Health of the cougar population is integrally linked to the health of their primary prey species. When severe winter conditions or large-scale habitat loss severely reduce local deer or elk populations, cougars may depress population recovery of the herd. However, when local prey populations are severely reduced (regardless of cause), the cougar population that depends on them also faces eventual decline.

Food Habits

Throughout the western United States, deer and elk are the main food of cougar; Oregon is no exception. Radio collared cougar in northeastern Oregon consumed (in order of decreasing frequency): mule deer, Rocky Mountain elk, porcupine, snowshoe hare, and deer mice. Winter foods for cougar in Oregon's Cascade Range were principally black-tailed deer and porcupine. Another Oregon study indicated deer, elk, and porcupine were the most common winter food items. In some areas, bighorn sheep are an important prey species.

The number of prey consumed by an individual cougar varies with the cougar's sex, age, and reproductive status, as well as weather conditions (spoilage in warm temperatures) and scavenging by other species such as birds and coyotes. In general, an adult cougar will kill a deer or elk about every 7-10 days. If the kill is scavenged or spoils due to warm temperatures, cougar will kill more often. Females with young will kill more often than solitary cougars.

Distribution

Cougar are highly adaptable and widely distributed, occurring in a broad spectrum of habitats ranging from desert to alpine environments. They are very closely associated with deer and elk habitat, due to their dependence on these species for food. Cougar are now distributed statewide.

Biologists believe the most productive cougar habitat in western Oregon is the Douglas fir/trailing blackberry type, with an old growth forest component. The best eastern Oregon habitat is thought to be the open mixed-conifer type of the Blue Mountains, including the pine-bunchgrass type and the canyon country of northeastern Oregon. All Oregon cougar habitats are also productive deer, bighorn sheep and/or elk areas.

Density

Cougar density is primarily influenced by a combination of prey availability, habitat structure, and tolerance for other cougars. Generally, prey availability is directly related to the quality of habitat for prey species. In turn, prey availability directly influences cougar reproduction and mortality rates. Studies indicate cougar populations increase as available prey increases.

Because cougars are territorial animals, population growth rate decreases as density of cougars increases. As population density increases, a large number

of young cougars disperse into unoccupied or less densely occupied habitat, and mortality rates from fighting and cannibalism increase. The dependence of cougars on their prey and their territorial social structure explain why cougar numbers do not reach levels observed in many other wildlife species.

Management

Controlled hunt seasons were authorized for cougar between 1970 and 1994. Since then, unlimited tags have been allowed for a general statewide season. Harvest quotas have been established by six geographical zones to ensure that the population in an area is not over harvested. Cougar quota hunt zones are described in the Big Game Regulations. If a quota is reached in a particular zone, that zone will be closed to further cougar hunting for the year. Year-round seasons were authorized in 1997 to address high levels of damage in selected areas of

southwestern Oregon. Beginning in 2005, hunters may purchase two tags and take two cougars in eastern Oregon. Beginning in 2007, the additional tag is valid for statewide.

Hunters are required to check in the hide of any cougar taken, as well as the reproductive tract of any female cougar, to an ODFW office, with skull and proof of sex attached. The department evaluates sex and age structure of all cougar mortalities, (including cougar taken on damage) to monitor the overall health of the population. This information is particularly important because it is impossible to conduct an annual census of cougars.

The age distribution of harvested cougars is used as an indicator of population health and to monitor impacts of hunting on a population. The department has revised the Cougar Management Plan, which was adopted by the Commission in April 2006.

2009 Cougar Harvest Trend

UNIT #	UNIT	HARVEST				UNIT #	UNIT	HARVEST			
		2006	2007	2008	2009			2006	2007	2008	2009
<u>ZONE A NORTH CASCADES</u>					<u>ZONE E BLUE MOUNTAINS</u>						
10	Saddle Mountain					37	Ochoco	4	7	5	
11	Scappoose					46	Murderers Creek	9	3	7	
12	Wilson					47	Northside	10	11	5	
14	Trask			1		48	Heppner	12	9	10	
15	Willamette	2	1	1	2	49	Ukiah	11	12	16	
16	Santiam	16	12	13	21	50	Desolation	7	5	5	
17	Stott Mountain	1	1	2	3	51	Sumpter	11	6	13	
18	Alsea	9	7	10	11	52	Starkey	10	6	6	
20	Siuslaw	2	5	5	5	53	Catherine Creek	3	6	5	
24	Tioga	5	4	5	7	54	Mount Emily	5	8	6	
25	Sixes	2	2	1	1	55	Walla Walla		5	1	
26	Powers	3	3	2		56	Wenaha	6	6	4	
27	Chetco	4	5	2	3	57	Sled Springs	7	8	9	
39	Metolius		2	3	4	58	Chesnimnus	4	5		
41	White River	4	8	7	2	59	Snake River	6	2	1	
42	Hood			1	2	60	Minam	5	1	3	
	<u>Zone A Total</u>	<u>48</u>	<u>50</u>	<u>53</u>	<u>61</u>	61	Imnaha	3	3		
<u>ZONE B SOUTHWEST CASCADES</u>					<u>Zone E Total</u>						
19	McKenzie	6	8	9	7			126	110	109	
21	Indigo	3	4	2		<u>ZONE F SOUTHEAST</u>					
22	Dixon	5	16	10	7	36	Maury	1	5	3	
23	Melrose	7	5	4	1	65	Beulah	8	6	8	
28	Applegate	3	7	4	3	66	Malheur River	8	4	4	
29	Evans Creek	5	6	3	5	67	Owyhee	4		3	
30	Rogue	13	8	5	8	68	Whitehorse		2	3	
31	Keno		2	3	2	69	Steens Mountain	3	4	3	
	<u>Zone B Total</u>	<u>42</u>	<u>56</u>	<u>40</u>	<u>33</u>	70	Beatys Butte	1	4	2	
<u>ZONE C SOUTHEAST CASCADES</u>					<u>Zone F Total</u>						
32	Klamath Falls	8	8	5	4			39	43	35	
33	Sprague	2	1		1	71	Juniper	1	2	1	
34	Upper Deschutes	2	3	3	1	72	Silvies	6	6	5	
35	Paulina	2	6	4	6	73	Wagontire	1		2	
75	Interstate	6	8	7	6	74	Warner	6	10	1	
76	Silver Lake	1	1	1	1						
77	Fort Rock	1	3		2	<u>GRAND TOTAL</u>					
	<u>Zone C Total</u>	<u>22</u>	<u>30</u>	<u>20</u>	<u>21</u>			<u>289</u>	<u>308</u>	<u>273</u>	
<u>ZONE D COLUMBIA BASIN</u>											
38	Grizzly	3	7	5	8						
40	Maupin	1	4	2							
43	Biggs	1	3	4	2						
44	Columbia Basin	1		1	2						
45	Fossil	6	5	4	4						
	<u>Zone D Total</u>	<u>12</u>	<u>19</u>	<u>16</u>	<u>16</u>						

With adoption of the revised Cougar Management Plan April 13, 2006, all known cougar mortalities now count toward zone quot To account for this shift and be consistent with population and conflict objectives adopted in the plan, the statewide cougar

COUGAR HARVEST AND QUOTA BY HUNT ZONE

ZONE	NAME	QUOTA	2007			2008			2009		
			HUNTER HARVEST	NON-HUNTER MORTALITY	TOTAL MORTALITY	HUNTER HARVEST	NON-HUNTER MORTALITY	TOTAL MORTALITY	HUNTER HARVEST	NON-HUNTER MORTALITY	TOTAL MORTALITY
A	Coast / North Cascades	120	50	46	96	53	41	94	61	38	99
B	Southwest Cascades	165	56	52	108	40	66	106	33	57	90
C	Southeast Cascades	65	30	5	35	20	5	25	21	4	25
D	Columbia Basin	62	19	28	47	16	19	35	16	22	38
E	Blue Mountains	245	110	72	182	109	64	173	113	45	158
F	Southeast Oregon	120	43	26	69	35	22	57	30	33	63
	TOTAL	777	308	229	537	273	217	490	274	199	473

With adoption of the revised Cougar Management Plan April 13, 2006, all known cougar mortalities now count toward zone quotas. To account for this shift and be consistent with population and conflict objectives adopted in the plan, the statewide cougar mortality quota increased 16% from 668 to 777 effective upon adoption. When total human caused mortality reaches the quota for a zone, hunting season will close in that zone.

COUGAR HARVEST SUMMARY

YEAR	EASTERN OREGON				WESTERN OREGON				STATEWIDE TOTALS					
	TAGS		HUNTERS		TAGS		HUNTERS		TAGS		HUNTERS		HARVEST	
	AUTHORIZED	HARVEST	AUTHORIZED	HARVEST	AUTHORIZED	HARVEST	AUTHORIZED	HARVEST	AUTHORIZED	HARVEST	AUTHORIZED	HARVEST	QUOTA	PERCENT SUCCESS
1970	25	16	10	--	--	--	--	--	25	16	10	10	63	
1971	--	--	15	--	--	--	3	100	100	68	18	18	26	
1972	75	46	22	--	--	--	--	75	75	46	22	22	48	
1973	83	55	16	--	--	--	--	83	83	55	16	16	29	
1974	75	34	16	--	--	--	--	75	75	34	16	16	47	
1975	95	52	15	--	--	--	--	95	95	52	15	15	29	
1976	115	52	14	10	8	2	125	125	125	60	16	16	27	
1977	115	54	25	25	19	2	140	140	140	73	27	27	37	
1978	105	64	24	25	16	10	130	130	130	80	34	34	43	
1979	115	54	19	25	17	4	140	140	140	71	23	23	32	
1980	120	56	17	40	33	15	160	160	160	89	32	32	36	
1981	98	52	25	43	31	8	141	141	141	83	33	33	40	
1982	117	69	43	46	29	14	163	163	163	98	57	57	58	
1983	132	51	41	56	34	13	188	188	188	85	54	54	64	
1984 ¹	167	--	42	96	--	37	263	263	263	--	79	79	--	
1985 ¹	207	--	36	155	--	26	362	362	362	--	62	62	--	
1986	232	161	61	230	146	56	462	462	462	307	117	117	38	
1987	227	157	76	230	180	90	457	457	457	337	166	166	49	
1988	237	163	63	205	162	69	442	442	442	325	132	132	41	
1989	226	153	65	225	203	79	451	451	451	356	144	144	40	
1990	241	178	78	230	185	77	471	471	471	363	155	155	43	
1991	252	173	86	230	192	69	482	482	482	365	155	155	42	
1992	267	189	93	250	202	94	517	517	517	391	187	187	48	
1993	285	201	82	275	212	78	560	560	560	413	160	160	39	
1994	308	178	85	280	180	60	588	588	588	358	145	145	41	

COUGAR HARVEST SUMMARY

AR	EASTERN OREGON				WESTERN OREGON				STATEWIDE TOTALS							
	TAGS SOLD		HUNTERS HARVEST		TAGS SOLD		HUNTERS HARVEST		TAGS SOLD		HUNTERS HARVEST		HARVEST QUOTA		PERCENT SUCCESS	
995	General		Mandatory Cougar		General		Mandatory Cougar		385 ²		294 ⁴		34	352		12
996	Season		Check In Required		Season		Check In Required		779 ²		661 ⁴		48	352		7
997	"	"	"	"	"	"	"	"	935 ²		863 ⁴		60	352		7
998	"	"	"	"	"	"	"	"	9,930 ²		9,378 ⁴		153	360		2
999	"	"	"	"	"	"	"	"	14,545 ²		13,427 ⁴		160	380		1
000	"	"	"	"	"	"	"	"	22,356 ³		19,097 ⁴		138 ⁵	400		1
001	"	"	"	"	"	"	"	"	27,777 ³		25,966 ⁴		220	400		1
002	"	"	"	"	"	"	"	"	31,167 ³		12,765 ⁴		232	408		2
003	"	"	"	"	"	"	"	"	33,330 ³		28,017 ⁴		248	510		1
004	"	"	"	"	"	"	"	"	34,017 ³		-- ¹		265	562		-- ¹
005	"	"	"	"	"	"	"	"	38,079 ³		-- ¹		224	579		-- ¹
006	"	"	"	"	"	"	"	"	38,719		-- ¹		289	777 ⁷		-- ¹
007	"	"	"	"	"	"	"	"	41,813		-- ¹		308	777 ⁷		-- ¹
008	"	"	"	"	"	"	"	"	43,211		-- ¹		273	777		-- ¹
009	"	"	"	"	"	"	"	"	43,375		-- ¹		473	777		-- ¹

¹ No hunter survey taken.
² General season tag sales deadline matches that of first season rocky mountain elk.
³ General season tag sales deadline matches that of general black bear season.
⁴ Expanded harvest survey data.
⁵ Reduced season length this year. Four month general season and six month expanded season. Previous hunting seasons ran from fall through spring
 In 2000 the season ran from August through December (5 months) as we began the change to a calendar year framework. For the year 2001 the
 hunting season is a split season and runs from January through May and August through December.
⁶ Phone survey conducted differently from other years.
⁷ With adoption of the revised Cougar Management Plan April 13, 2006, all known cougar mortalities now count toward zone quotas. To account for this
 shift and be consistent with population and conflict objectives adopted in the plan, the statewide cougar mortality quota increased 16% from 668 to 777
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