

From Ghosts of the Wilderness to

By

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the Urban Interface...

Q **the Once**
Mountain Lion
Has Returned.

From the rugged desert canyons of New Mexico to the conifer forests of northwest Montana, the mountain lion once again roams not only the remote reaches of our American west, but the human - wild-land interface as well. The mountain lion is now the most widely distributed large carnivore in North and South America. Lions range from northern British Columbia to the Straits of Magellan in South America. Mountain lions prefer dense cover or rocky, rugged terrain, but occur from desert to swamps, from cottonwood forests along prairie river bottoms to subalpine forests. Mountain lions occur from remote wilderness areas to urban subdivisions, with the location of prey animals and cover dictating distribution, not necessarily the presence or absence of man.

The first record of a mountain lion, other than desert rock paintings made by native Americans, was made by the Lewis and Clark expedition in May of 1805 when they observed a "panther" that was "feasting" on a freshly killed deer in the Missouri Breaks region of the state of Montana. Today, the most consistent feature of mountain lion habitat of western North America is probably the presence of mule deer, whitetail deer, and elk.



**PHOTO TAKEN OF A
COLLARED MOUNTAIN LION
DURING HWI RESEARCH
IN YELLOWSTONE PARK.**

*Photograph courtesy of
Hornocker Wildlife Institute
and Bob Wiesner*

The color or pelage of adult mountain lions varies in solid but graded tones of yellow, brown, red and gray. Most often the lion is described as being tawny in color. Hair color does not appear to be related to season or locality, although there is some degree of consistency within the various subspecies. In North America,

the harder a prey animal struggles, the more firmly they grip. The massive jawbone structure has no backward or forward motion, enabling the lion to absorb the shock that often accompanies an attack. The dentition of a lion, complete with the shearing carnassial teeth, is well suited to the slashing and tearing of meat. The rear limbs of a lion are longer than the fore limbs. This, along with a long tail that may function for balance, is probably an adaptation for jumping and occupation of topographically diverse habitats.

Mountain lions are able to eat almost all animals available to them. However, intensive research projects that investigated food habits and predation in Idaho by the second author, and subsequently the Hornocker Wildlife Institute's (the Institute is supported in part by the Boone and Crockett Club) mountain lion research efforts in New

Mexico, Yellowstone National Park, and Glacier National Park in northwestern Montana have revealed that the mountain lions' primary prey species are deer and, in some cases, elk. In New Mexico, HWI research has shed

new light on the relationship between the mountain lion and mule deer that inhabit the San Andres Mountains. Results suggest that precipitation and habitat dictate mule deer numbers, not the lion population. Analysis by HWI is currently underway on the relationship between mountain lions and their prey species in Yellowstone National Park.

This study will produce some of the most detailed predation databases to date. In Glacier National Park, HWI is investigating the relationship between mountain lions and recolonizing gray wolves. Food habits of these two large carnivores are of particular interest as they relate to prey populations. Research by the senior author in Montana's Bob Marshall Wilderness and on the Rocky Mountain Front (just south of the Theodore Roosevelt Memorial Ranch) revealed that mountain lions preyed on deer and elk as well, with bighorn sheep being an important food item during winter. Other research efforts conducted by various state wildlife agencies throughout the west have confirmed that deer and elk are the primary prey base for lions in the west.

Mountain lions typically live at low densities. In a desert population in New Mexico, the density of mountain lions in a mountainous environment ranged from 2-4 lions per 100 square kilometers. Litters, typically with 3 cubs were born year-round. At any given time, approximately 3/4 of the adult female mountain lions will be raising cubs. Mountain lion cubs typically disperse from their natal home ranges from 12-18 months of age. Mountain lions have been known to disperse distances of greater than 100 miles. In most mountain lion populations studied, the male home ranges are larger than the female home ranges. In fact, while female home ranges may overlap, males typically avoid one another, both in space and in time. It is not uncommon for mountain lions to kill other

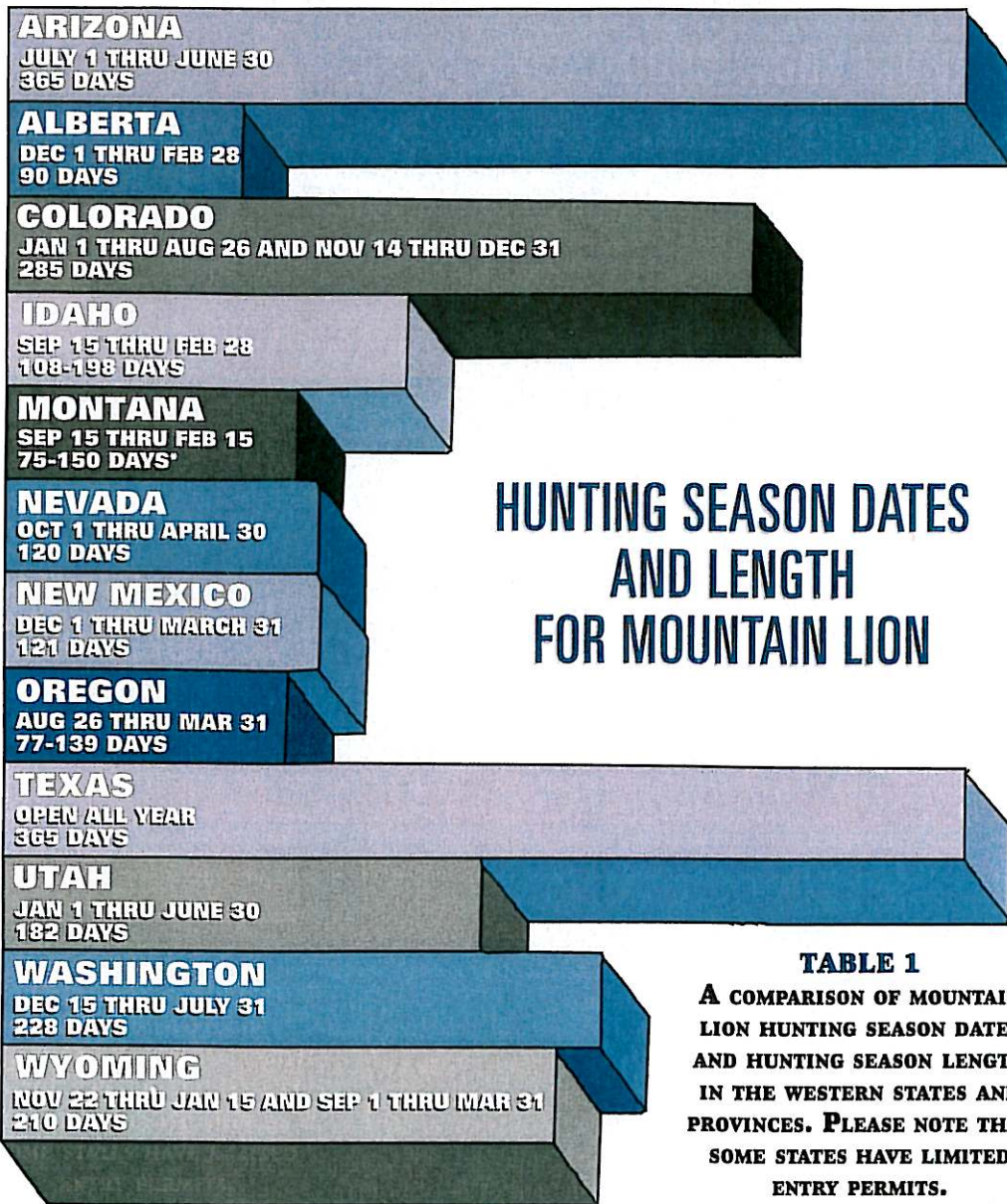


Photograph courtesy of Tom Tietz

Some people revel in the knowledge that mountain lions still stalk our western wildlands, while others view them as a threat to livestock and human safety.



Photograph courtesy of Tom Tietz



HUNTING SEASON DATES AND LENGTH FOR MOUNTAIN LION

TABLE 1
A COMPARISON OF MOUNTAIN LION HUNTING SEASON DATES AND HUNTING SEASON LENGTH IN THE WESTERN STATES AND PROVINCES. PLEASE NOTE THAT SOME STATES HAVE LIMITED ENTRY PERMITS.

* Two areas open Sept. 15.
 Fifty-seven areas open
 December 1.

lions. In some populations, lethal fighting among lions, along with sport hunting represents the most significant source of annual mortality in a mountain lion population. In the western United States, male home ranges can vary from 50-100 square miles while female home ranges often are between 25 and 50 square miles.

Mountain lions evoke a wide range of emotions in those who enjoy western North America's wildlife and wild places. Some people revel in the knowledge that mountain lions still stalk our western wildlands, while others view them as a threat to livestock and human safety. For some, the opportunity to chase or harvest these seldom seen big

last 15 years even as mortality through hunting and other causes has steadily increased. In fact, over 500 mountain lions were legally harvested in Montana during the 1996 hunting season. While all the reasons aren't completely understood, it is clear that wildlife management and conservation practices, along with new knowledge available about this secretive predator from intensive research projects has positively affected mountain lions, their habitat, and their management in recent years.

The evolution of mountain lion management in Montana during the last 25 years is, in part, similar to other western states. Prior to 1971, when the Montana legislature classified the mountain lion a big game animal, its status was that of a predator. From 1869 through 1962, the state paid a bounty on each lion killed. The bounty was lifted in 1962, but the lion remained unprotected until 1971, when it was elevated to game animal status. Today in Montana, a quota system is used to regulate numbers of males and females taken as well as to distribute harvest and hunting pressure across the state. This system of harvest regulation, which began in 1986, has offered much greater protection to the female segment of the lion population. These lion management changes in Montana and throughout the west were supported by scientific results from pioneering mountain lion research that was conducted in central Idaho by the second author.

In addition to more protective hunting season structures throughout the west, the ungulate prey base (deer and elk) has also increased since the mid-1970's. Game management strategies and habitat protection efforts by various agencies and private organizations have resulted in some of the highest ungulate numbers since before the turn of the century. The innate ability of mountain lions to exploit a variety of habitats and use a diversity of food has also contributed to

game animals is an unmatched experience, while others object to the notion of killing them for any reason. Public beliefs towards the mountain lion and it's management varies widely. In California, mountain lion hunting has been banned since 1990, even though the state appears to have a flourishing population of lions and is beset by a rising number of mountain lion/human incidents.

Regardless of the confusing welter of beliefs and emotions surrounding these large predatory cats, one central, indisputable fact remains: Their populations in the western United States have increased during the last 20 years. In Montana, it appears that populations have increased during the

their increased numbers throughout their range.

Harvest strategies for mountain lions vary throughout the west (see Table 1). For instance, in Montana the mountain lion season runs from December 1 through February 15. Hunting with hounds has been found to be the only effective method of harvesting these secretive cats, and has the added benefit of allowing hunters to identify the sex of a treed lion and determine whether it is a lactating female traveling with kittens. The season in Montana is now divided in half, with the first half a harvest season and the second half a "chase-only" season. The chase season was implemented to allow houndsmen to properly train their dogs. A new experimental rifle season was implemented this year (1997) in extreme northwestern Montana in which a hunter with a valid mountain lion license may harvest a lion during the general big game rifle season. Individual lion hunting districts will close during the general season upon reaching a percentage of the overall mountain lion hunting district quota. Results of this new season are yet unknown.

In recent years, many of the wild places historically inhabited by mountain lions in the rugged western United States have attracted growing numbers of people. When people move into popular mountain regions like Montana's Flathead or Bitterroot Valleys, they often choose to build on forested land. Such areas are home to many of the animals that mountain lions prey on, especially deer. Compared to mule deer, whitetail deer appear to better tolerate the presence of humans in the form of residential development and agriculture. At first glance, many wildlife enthusiasts revel in the fact that whitetail deer can tolerate the presence of humans and that their numbers often increase in urban areas that were former wildlands due to a refuge effect from sport hunting. Unfortunately this scenario, which is becoming all too common

in the Rocky Mountain west, is proving to be a recipe for increased mountain lion/human interactions, which often result in fatal consequences for both lions, and sometimes humans. It appears that mountain lions with their solitary and cryptic nature, like the whitetail deer they prey on, can also tolerate in part the presence of humans in the form of foothill and forest-land subdivisions. Once limited to forested and mountainous lands, conflicts with mountain lions have occurred recently in larger cities out on the prairie, 45 miles from the nearest mountain range or conifer forest. A young male lion was removed from a Missouri River bottom subdivision in Great Falls, Montana, last fall by the senior author. Great Falls is located 30 miles from the nearest mountains on the short-grass prairie. The key ingredient appears to be the presence of deer and some form of continuous cover such as a cottonwood river bottom that connects an urban area to occupied mountain lion habitat.

While most new residents to the Rocky Mountain West enjoy seeing wildlife in their yard, they usually do not feel the same way about a mountain lion. From New Mexico to Montana the scenario is the same, as urban sprawl moves into western wildlands, the potential for mountain lion-human interactions increases. Incidents involving mountain lions have increased throughout their range. However, given the number of people living and recreating in mountain lion habitat today, and the proportionately few lethal incidents, it is clear that mountain lions do not consider humans as primary prey.

Subdivisions and other developments continue to threaten mountain lion habitat throughout the West. The future of the big cats is in our hands. Can we as a civilized society tolerate a large predator that in some locations poses a threat to human safety? Can we as sportspersons, passionately interested in conservation

and sport hunting, support management for both prey and predator at the same time? These two questions are both pivotal to the survival of mountain lions into the next century and beyond. Mountain lions have evolved with the big game animals that we so cherish today. In fact, selective forces exerted by mountain lions on the evolution of deer, elk, and bighorn sheep represent some of the behavioral traits that we enjoy when watching a mule deer bound up a rugged hillside or a band of bighorn ewes scrambling around on a rocky cliff. The mountain lion is one of but a few large ice age predators that is not only still present in today's western landscape, but that is also flourishing. It is difficult, if not impossible, to understate the value of conserving deer and elk habitat to future mountain lion populations. Sound wildlife management practices based on long-term research, (many of the research efforts are supported by the Boone and Crockett Club),



secure habitat, healthy prey populations, ongoing mountain lion research efforts by the Hornocker Wildlife Institute and various state agencies, and heightened public interest and education should guarantee future generations of the Rocky Mountain west ample opportunity to enjoy these secretive and mysterious large cats that were once relegated to the most remote of our western wilderness habitats.▲▲▲

THE AUTHORS, JIM WILLIAMS, LEFT, AND MAURICE HORNOCKER, ON A RECENT GROUSE HUNT IN CENTRAL MONTANA. THE SHARP-TAILED GROUSE DIDN'T QUITE MAKE THE BOONE AND CROCKETT CLUB RECORDS BOOK, BUT THEY SURE TASTED GOOD!