

# Wyoming Game and Fish Department



## Mountain Lion Education And Identification Course

WYOMING GAME & FISH DEPARTMENT  
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## *Mountain Lions in Wyoming*

The mountain lion is known by many names, including puma, cougar and panther. Scientists consider “puma” to be the preferred common name. Existing only in the Western Hemisphere, it is one of North America’s biggest cats (weighing up to 150 pounds). From territorial days to 1973, the mountain lion received no legal protection.



The earliest statutory reference to the mountain lion was in 1882 when the Council and House of Representatives of the Territory of Wyoming enacted Chapter 108, Section 1. This legislation authorized county commissioners to encourage the destruction of wolves, bears and wild cats (i.e., bobcats, lynx and mountain lions) by offering bounty payments. Although property owners, employees and lessees are still allowed to kill any mountain lion causing damage to private property, bounty payments are no longer authorized. In 1973, the mountain lion was reclassified from a predator to a trophy game animal. Since then, regulations governing the take of mountain lions have become more restrictive with the establishment of shorter seasons, total mortality quotas and female sub-quotas.

*Treed mountain lion.* © CDOW.

The goal of mountain lion management in Wyoming is to sustain mountain lion populations throughout core habitat at varying densities depending on management objectives. Those management objectives include providing recreational/hunting opportunity, maintaining ungulate populations at established objectives or in line with current habitat conditions, minimizing mountain lion depredation on pets and livestock, and reducing the potential for human injury.

Individual hunt area management objectives are based on regional desires to meet localized situations. Management may be directed at maintaining areas with low population densities (‘sink’ areas), stable population densities or low mountain lion mortality. The areas with low mortality serve as ‘source’ areas for mountain lion dispersal into areas with negative population growth (sink areas). Sink, or population reduction, management will be applied to maintain low mountain lion densities in areas experiencing high nuisance incidents (livestock depredation, human-lion interactions) and areas where ungulate populations are believed to be depressed primarily due to mountain lion predation. Stable management objectives will be implemented to sustain long term hunting opportunity. Source management objectives will be applied to areas where nuisance incidents and predation impacts to prey populations are not an issue. Lion Management Units (LMUs) are large land areas containing one or more hunt areas.

Management objectives at the LMU level will strive for a combination of source, stable and sink management that will allow the Department to sustain mountain lion populations throughout core habitat at varying densities depending on management objectives.

## *Physical Appearance*

The scientific name given the mountain lion is *Puma concolor* (formerly *Felis concolor*), meaning ‘cat of one color.’ Yet, the animal’s back and sides are usually tawny to light-cinnamon in color, the chest and underside are white and the backs of the ears and the tip of the tail are black.

Males and females vary in size and weight, with males being larger than females. Adult males may be more than eight feet long and can weigh 150 pounds or more. Adult



females may be up to seven feet long and weigh an average of 90 pounds. The mountain lion is easily distinguished from Wyoming’s other wild cats—the bobcat and lynx. The mountain lion, except for its kittens, is much larger than the lynx or bobcat and has a very long tail, measuring approximately one-third of its overall body length.

*Bobcat, for comparison. © CDOW, by Robin Olterman*

The mountain lion is very difficult to find unless you know what to look for. The most obvious ‘signs’ of a mountain lion are tracks left in new snow or on soft ground. Less obvious, but just as telling, is scat (feces) a lion has deposited.



*Lynx, for comparison. © CDOW.*

## *Habitat Use*

The broad geographic distribution of the mountain lion in North America attests to its ability to persist anywhere that provides adequate prey and cover. Mountain lion habitat studies in the western US suggest mountain lions select conifer, deciduous timber, riparian, and tall shrub habitat types at mid elevations in steep or rugged terrain. Tall vegetation or rugged terrain sufficient for concealment provides the necessary hiding and stalking cover for securing prey and raising young. Mountain lions may be found in climates ranging from arid regions of desert environments to temperate rainforests of the Pacific Coast. Besides prey availability, the only biophysical limitations for the mountain lion are vast, open areas with little hiding cover and severely cold winter temperatures of northern climates. The best habitat in Wyoming is associated with the various mountain ranges scattered across the state. However, the mountain lion also occurs at lower densities in places like the Red Desert and native grasslands north and east of Casper. It is felt that the mountain lion is increasing in both numbers and distribution within the state since it has been documented along Wyoming's eastern border.

## *Diet*

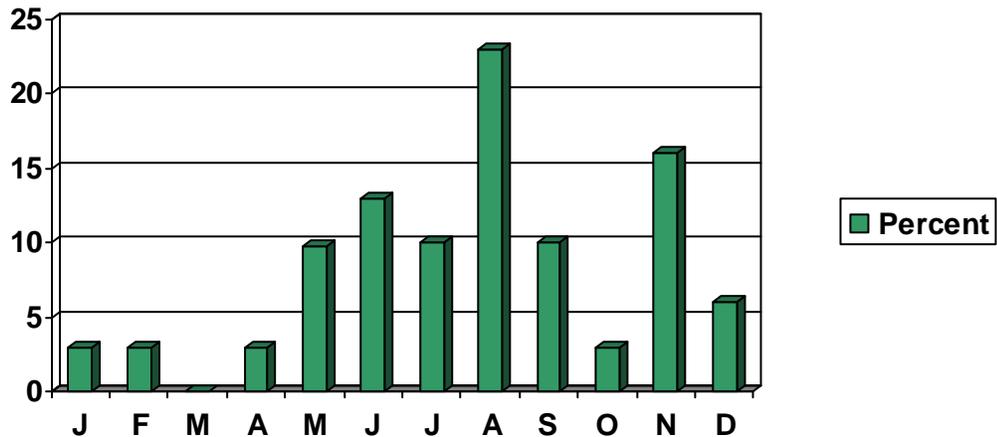
Mountain lion diets consist primarily of large vertebrate prey species. In much of North America, deer comprise the majority of mountain lion diets, but other large ungulates such as elk, bighorn sheep, moose, and pronghorn may also be consumed. Although the mountain lion primarily subsists on large ungulates, small mammals including porcupine, hares and rabbits, ground squirrels, and beaver may also supplement its diet. The mountain lion also occasionally preys on domestic livestock and pets. Sheep and goats are the most commonly killed domestic livestock, but mountain lions also kill cattle, horses, and pets including dogs and cats.

## *Social Structure and Reproduction*

Social behavior of the mountain lion likely evolved to maximize individual survival and reproductive success. The mountain lion is a solitary animal where dominant males typically breed with multiple females that reside within their home range. Resident males aggressively defend their territories against male intruders, whereas females allow more overlap, but express mutual avoidance. The size of female home ranges tends to be large enough to provide sufficient prey for them and their young (~50-100 km<sup>2</sup>, 20-40 mi<sup>2</sup>), while male home ranges tend to be larger (~150-300 km<sup>2</sup>, 60-120 mi<sup>2</sup>), overlapping several females, apparently to maximize their reproductive success. Young females commonly remain in their mother's home range, but young males typically disperse from their natal range. Partially due to its solitary and territorial nature and ultimately limited by prey abundance, mountain lion densities are low relative to other large mammals.

Female mountain lions typically produce their first litter at 2-3 years old and may breed at any time of the year, but exhibit seasonal birth pulses. Gestation lasts 82-96 days and mountain lions typically produce 2 to 4 young. Kittens are usually weaned at 2-3 months

and typically remain with the female for 12–18 months before becoming independent. Each year about 50% of adult female lions produce kittens, while another 25% have dependent young with them from the previous year. Therefore, approximately 75% of adult females might have dependent young with them.



*Mountain Lion birth rates in Wyoming.*

Mountain lion scat tends to be segmented, broken “cords” or pellets with small tails—or no tails at all. Hair, bones, and teeth in the scat are common.



### *Mortality in Kittens*

Because the mountain lion can breed and reproduce any time of the year, orphaning of young can result from the harvest of females with young. This issue draws emotionally negative responses from some segments of the public. Wyoming law prohibits the harvest of mountain lions accompanied by young, but females may not be accompanied

by young while searching for prey and therefore may mistakenly be harvested by mountain lion hunters.



*Mountain Lion and Kitten. © CDOW.*

Because young may become independent as early as 12 months old or earlier and average dispersal age is about 14-15 months, it is unlikely yearling survival is influenced by the death of their mother. But, survival of young  $\leq 12$  months old is likely reduced.

Seeing a female mountain lion alone ***does not mean*** that she is without dependent kittens. Females stop producing milk after eight to twelve weeks, so kittens may no longer be in her ***immediate*** vicinity after that time. In a Wyoming study, females were captured (during winter) away from their kittens 50% of the time. In Utah, researchers found females with kittens younger than seven months old 63% of the time.

### ***Mountain Lion Gender Identification (Sexing) in the Field***

Typically, correct identification of sex is easiest when the lion is treed.

**Male adult and sub-adult lions** have a conspicuous black spot of hair, about one inch in diameter, surrounding the opening to the penis sheath behind the hind legs and about four-to-five inches below the anus. Between the black spot and the anus is the scrotum, which is usually covered with silver, light brown and white hair. Look for the black spot and scrotum. The anus is usually hidden below the base of the tail.



*Male mountain lion. © Ken Logan.*



*Male mountain lion. © Ken Logan.*

**Female adult and sub-adult lions** have no scrotum and have a black vulva spot about 1” below the anus. Because the anus and vulva are up under the base of the tail, the vulva spot may not be evident, especially from a distance.



*Female mountain lion. © Ken Logan.*

**Teats of females** are usually inconspicuous, even those of mothers with weaned cubs or mothers that have just finished nursing cubs. Teats are usually not a good indicator of sex in treed lions.

Sex of a treed mountain lion can sometimes be determined just by looking with the naked eye, but using binoculars makes sexing lions easier and is less likely to lead to an incorrect determination.

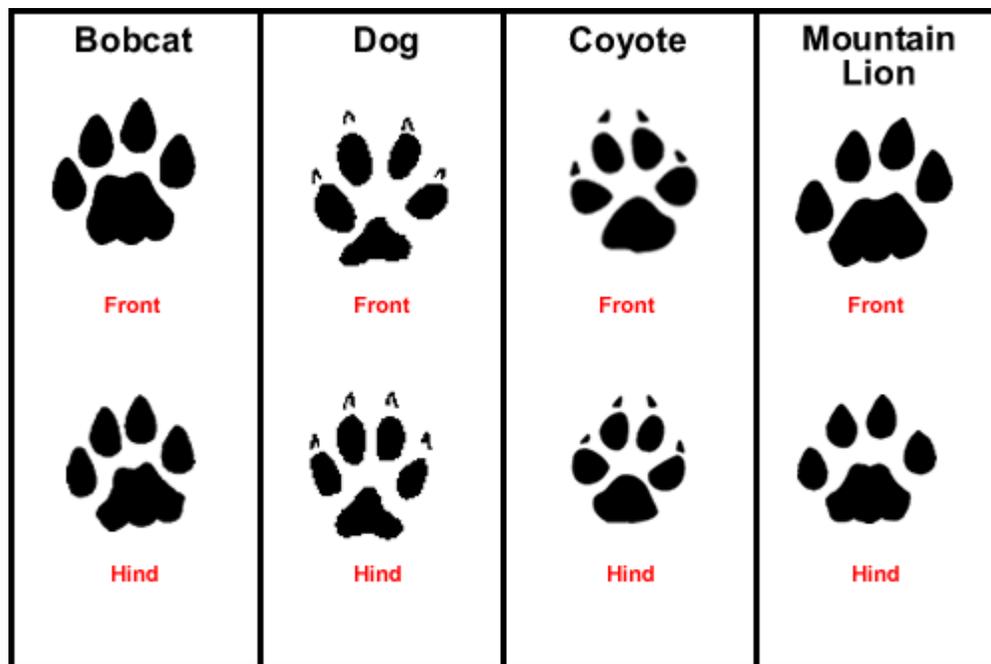
If the lion’s position in a tree obscures your view, get the lion to move a bit to give a better angle or position for observing. Try banging a stout branch against the tree trunk, or, if there is snow on the ground, lightly toss a few snowballs toward the lion. Moving around the base of the tree may get the lion to change position as it moves to keep you in sight.

## *Tracks*

Tracks of lions, especially in snow or mud, can be used as another indicator of the sex of a lion or whether a female might have young with her.

- More than one set of tracks often indicates a female with young. Immature males may leave tracks as large as their mother's.
- Stride length can be measured to help distinguish a mature male from an immature male or female.
- Track size can help you tell a mature male from a female.

### *Size and shape comparisons:*



**Not to scale. Apparent sizes are not relative.  
The front feet of mountain lions, bobcats, and coyotes are normally larger than the hind feet.**

### *Female and Male Mountain Lion Track Sizes:*

The largest adult male's tracks may be up to 5" wide; the average male will have tracks approximately 4" wide. Adult females leave tracks of 3.5" in width or less. (Note, too, that the front feet are normally larger than the hind feet.)

Another way to determine gender from tracks is to measure the plantar ('heel') pad. Since a lion in a walking gait usually places its hind foot on the track left by the same-side front foot, the hind track will usually be the most distinct and easiest to measure.

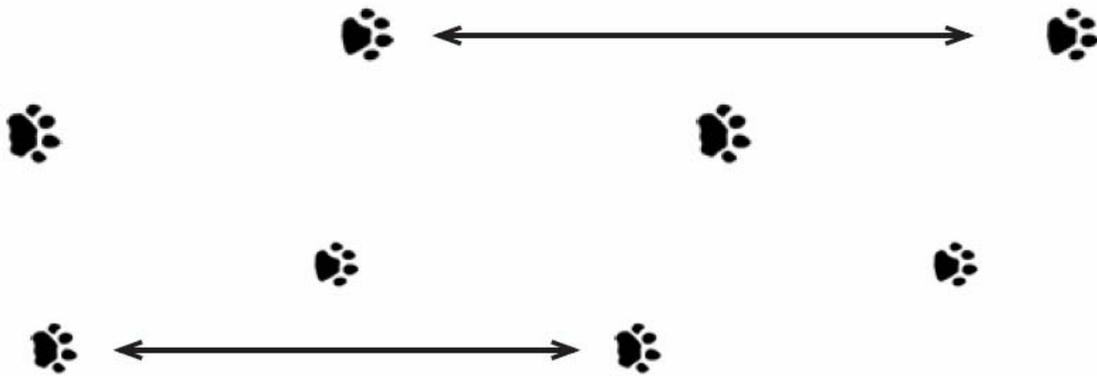
*The plantar pad width for a female adult lion will usually be less than two inches wide; a male's will usually be greater than two inches wide.*

Various factors may lead to incorrect conclusions when 'reading' tracks:

- Nature of the surface the impressions are on—hard, soft, wet, and so forth.
- Pace of the lion's travel.
- Tracks may have been left by a sub-adult.

## *Stride Length*

When walking in snow on level ground, mature males will have an average stride greater than 40". Females and young lions will have a shorter stride, measuring less than 40". The illustration of tracks, below, shows a males stride (top) and a females stride (bottom).



*Two or more sets of tracks together usually indicate a female with young.*

As with reading tracks, stride can be affected by:

- Nature of the surface the impressions are on—hard, soft, wet, and so forth.
- Snow depth.
- Pace of the lion's travel.
- Tracks may have been left by a sub-adult.

## *Review*

- Male and female lions have distinct and identifiable external genitalia. Use binoculars or scopes when sexing a lion.
- If treed, a lion can be encouraged to move, perhaps providing a better view to determine gender.
- Tracks, individually or as part of a 'trail', can be used to obtain a preliminary determination of gender. Be aware of the factors that can lead to misinterpretation.

- Observing a lion urinate can also assist in determining gender: The urine of females comes from under the base of the tail; male urine comes from farther down between the legs, about four-five inches below the anus.

## *Laws and Regulations*

To hunt mountain lions in Wyoming, you must possess a mountain lion license. The license must be carried with you while hunting. Licenses are available at all WGFD Regional Offices, the Cheyenne office and authorized license agents.

Hunting season structure is based on mountain lion mortality quotas. Mortality quotas are established for each hunt area, and the hunting season will be closed when the quota has been met. Most of the hunting seasons run from September 1 through March 31, with the exception of a few hunt areas with chronic livestock depredations, which may run yearlong. Hunting with hounds is allowed. Hunters shall present the pelt and skull of harvested mountain lions to Department personnel within 72 hours of harvest so specific data can be recorded. These data will be used to determine the management status, age and sex structure of harvested mountain lions, distribution of mortalities, hunter effort, hunter success, and to account for and set future mortality quotas. Mortality quotas will be established every 3 years to allow sufficient time to reach management objectives and to permit adequate analysis of potential impacts of specific harvest quotas. The process by which these 3-year mortality quotas are set includes annual data analyses and summary by the Department's Trophy Game Section, internal review and recommendations at the regional level, public review of the recommendations, and final approval by the Wyoming Game and Fish Commission.

**You must check—daily—while hunting to determine if the hunt area you are hunting is still open.** To check, call 1-800-637-0809. The phone recording will announce closed hunt areas. If the hunt area you are planning to hunt (or are hunting) is closed, you must pick a different unit. More information is available in the Mountain Lion Hunting Seasons brochure, available at license selling agents and WGFD Offices.

### **INSTATE TOLL-FREE NUMBERS**

Cheyenne Headquarters.....	1-800-842-1934
Casper.....	1-800-233-8544
Cody.....	1-800-654-1178
Green River.....	1-800-843-8096
Jackson.....	1-800-423-4113
Lander.....	1-800-654-7862
Laramie.....	1-800-843-2352
Pinedale.....	1-800-452-9107
Sheridan.....	1-800-331-9834
STOP POACHING HOTLINE.....	1-877-WGFD-TIP
STOP POACHING SUBMIT TIP website at	

<http://gf.state.wy.us/wildlife/enforcement/stoppoaching/submittip.aspx>

For more information and materials call: 1-307-777-4600 or visit our web site at <http://gf.state.wy.us>

## **DEFINITIONS:**

Section 1. Authority. This regulation is promulgated by authority of W.S. §23-1-302 and W.S. §23-2-101(d).

Section 2. Definitions. For the purpose of this regulation, definitions shall be as set forth in Title 23, Wyoming Statutes and the Commission also adopts the following definitions:

(a) “Biological year” means twelve (12) consecutive months from September 1 to August 31.

(b) “Kitten” means any mountain lion less than one (1) year of age.

(c) “Mortality” means any legal or illegal human caused mountain lion death, excluding mountain lions taken by the Department, known natural mortalities and accidental mountain lion deaths.

Section 3. Hunting Seasons Established. There shall be open seasons for the hunting of mountain lion as set forth in this regulation. This regulation shall remain in effect until modified or repealed by the Commission.

Section 4. Hunting Regulations.

(a) Mountain lions shall only be taken during open seasons, except as otherwise provided by State statute and Commission regulations.

(b) Open Hours for Taking of Mountain Lions. Mountain lions shall only be taken one-half (1/2) hour before sunrise to one-half (1/2) hour after sunset.

(c) Registering Kills. Hunters taking mountain lions shall retain the pelt and skull from each mountain lion taken for registration purposes. Even if the skull is damaged, it shall accompany the pelt. Visible external evidence of sex shall remain naturally attached to the pelt. Within three (3) days (seventy-two (72) hours) after taking a mountain lion, the licensee shall present the pelt and skull to a district game warden, district wildlife biologist, or Department personnel at a Department Regional Office during business hours for registration. The pelt and skull shall be presented in an unfrozen condition in order to allow collection of two (2) premolar teeth to be utilized to determine the age of the mountain lion and to allow examination of the pelt to determine the sex of the mountain lion. At the time of registration, the licensee shall furnish the Department the location of the site of kill to include section, township and range, or UTM coordinates.

(d) Any person who makes a false statement on the registration form regarding the date the mountain lion was taken or the hunt area in which it was taken shall be in violation of this regulation and such violation shall be punishable as provided by Title 23, Wyoming statutes for violation of Commission regulations.

(e) After a mountain lion has been pursued, treed, cornered or held at bay, a properly licensed person shall immediately harvest or release the mountain lion. No person shall in any manner restrict or hinder the mountain lion's ability to escape for the purpose of allowing a person who was not present at the time the mountain lion was treed to arrive and take the mountain lion.

(f) Use of Dogs. Dogs may be used to take mountain lions during the open season.

(g) Bag and Possession Limits. The bag and possession limit for any person with a proper license shall be one (1) mountain lion during any one (1) calendar year (January 1-December 31). Hunters may take any mountain lion, except kittens and female mountain lions with kittens at side shall not be taken.

***RESIDENCY REQUIREMENTS:*** 'Resident' means a United States citizen or legal alien who is domiciled in Wyoming for at least one (1) full year immediately preceding making application for any resident game and fish license, preference point, permit or tag, shall not have claimed residency in any other state, territory, or country for any other purpose during that one (1) year period, and meets the requirements specified in Wyoming Statutes §23-1-102 and §23-1-107.

***AGE RESTRICTIONS:*** The minimum age to take any big or trophy game animal is twelve (12) years. Any person under the age of fourteen (14) years shall at all times when hunting be accompanied by a person over the age of majority (18 years of age and older) who possesses and can exhibit a hunter safety certificate or who currently holds, or has been issued a Wyoming big game hunting license within the last five (5) years. If the person accompanying the hunter under the age of fourteen (14) years is not the parent or guardian of the hunter, the hunter shall have in his possession a permission slip signed by his parent or guardian allowing him to hunt under supervision. Each accompanying adult shall supervise not more than one (1) hunter under the age of fourteen (14) years. Any person under the age of fourteen (14) years applying for a license to hunt big or trophy game animals shall have the application for the license co-signed by his parent or legal guardian.

## ***Thank You!***

This completes the instructional portion of the Mountain Lion Education and Identification Course. Thank you for taking the time to study this material. If you wish, you may now continue to the exam portion of the course. It is an interactive, online exam consisting of 19 true/false or multiple-choice questions. Instructions are found at the beginning of the exam.

## ***Good Luck!***

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