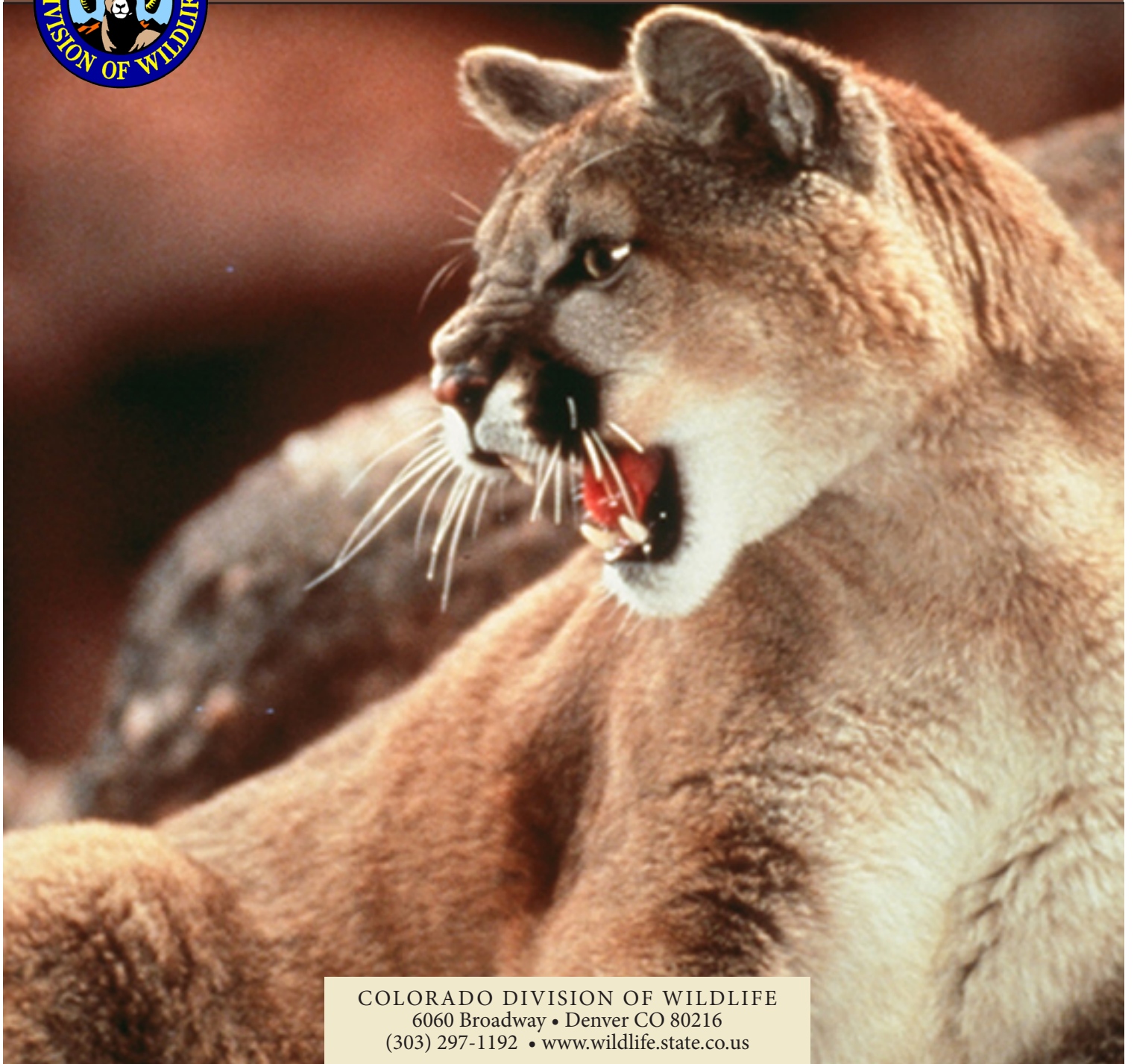


COLORADO DIVISION OF WILDLIFE
**Mountain Lion Education
and Identification Course**



COLORADO DIVISION OF WILDLIFE
6060 Broadway • Denver CO 80216
(303) 297-1192 • www.wildlife.state.co.us

Successful completion of the course and exam is required for anyone who hunts or pursues mountain lions—hunters, guides, outfitters, and houndsmen. Recommended for others who have an interest in mountain lions.

The Colorado Division of Wildlife is the state agency responsible for managing wildlife and its habitat, as well as providing wildlife-related recreation. Our public outreach programs promote appreciation, understanding, and stewardship of Colorado's wildlife. The Division is funded through hunting and fishing license fees, federal grants, and Colorado Lottery proceeds through Great Outdoors Colorado.

Welcome

Though required for some¹, the Mountain Lion Education and Identification Course is for anyone interested in mountain lion biology, physiology, and behavior.

The course

- presents information about mountain lion biology, physiology, and behavior;
- explains the importance of determining mountain lion gender for anyone who pursues or hunts mountain lions;
- provides instruction for distinguishing male from female mountain lions;
- explains the mountain lion management objectives of the Colorado Division of Wildlife ;
- details Colorado laws and regulations pertaining to mountain lion hunting; and,
- helps mountain lion hunters and others make informed choices, improving the hunting experience.



Successful completion of this course and exam is required of anyone who intends to hunt mountain lions in Colorado. This includes hunters, guides, outfitters, and houndsmen. Proof of successfully completing this course must be carried at all times when hunting or pursuing mountain lions. (“Proof” consists of a designation printed on the hunting license or a printed certificate generated after passing the exam portion of the course.)

The exam is available as a separate, printed document (call a DOW office for more information) or online as an interactive Flash application. A score of 80 or higher is required to pass.

The Mountain Lion Education and Identification Course is possible through the combined efforts of Colorado Division of Wildlife personnel and representatives of the Colorado Outfitters Association, Colorado Trappers Association, Colorado Bowhunters Association, Sinapu, Colorado Cattleman's Association, Safari Club International, Colorado Wildlife Federation, Colorado Farm Bureau, and Colorado hunters.

¹ Anyone who hunts or pursues mountain lions. This includes mountain lion hunters, guides, outfitters, and houndsmen.

Mountain Lions in Colorado

Mountain lions are known by many names, including puma, cougar, and panther. Scientists consider “puma” to be the preferred common name. Existing only in the Western Hemisphere, they are one of North America’s biggest cats (weighing up to 150 pounds). The Division of Wildlife (DOW) estimates there to be between 4,500 and 5,500 mountain lions in Colorado.



Treed mountain lion. © DOW.

Mountain lions have, historically, been regarded and treated as unwelcome predators (or “varmints”), with bounties of up to fifty dollars offered for each one taken. This attitude gradually evolved until, in 1965, mountain lions were designated a big game species in Colorado. Mountain lions are now afforded the protections given to other Colorado wildlife, with other protections to meet the particular needs of mountain lions.

The Colorado Wildlife Commission and the Colorado Division of Wildlife are responsible for establishing, reviewing, and setting rules and regulations for hunting mountain lions.

Mountain lions, like other big game species (deer, elk, moose, bighorn sheep, Rocky Mountain goats, bear, and pronghorn) are now hunted only for sport, recreation, and damage control and prevention. Mountain lion hunting is regulated in Colorado by setting annual harvest limits (quotas) for each Game Management Unit (GMU) in which they can be hunted.

Enforcement of these harvest limits is accomplished by

monitoring the number of mountain lions reported killed in each GMU as the hunting season progresses, and then closing GMUs to lion hunting when quotas have been reached.

Mountain lion hunting usually involves the use of dogs (up to eight in a “pack”) to tree or bay lions. Hunters must be able to determine the lion’s gender so they can decide whether or not they want to harvest it.

Physical Appearance

The scientific name given mountain lions is *Puma concolor* (formerly *Felis concolor*), meaning “cat of one color.” Yet, their back and sides are usually tawny to light-cinnamon in color; their chest and underside are white; 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.



Bobcat, for comparison. © DOW, by Robin Olterman.

Mountain lions are easily distinguished from Colorado’s other wild cats—the bobcat and lynx. Mountain lions, except for their kittens, are much larger than lynx or bobcats, and have very long tails, measuring, perhaps, one-third of their overall body length.

Range, Habitat & Behavior

Mountain lions are the most widely distributed cat in the Americas, found from Canada to Argentina. They live in mountainous, semi-arid terrain, subtropical and tropical forests, and swamps.

Mountain lions are found in most parts of Colorado—wherever there is an abundance of prey, rough terrain, and adequate vegetation to provide hunting cover. They are active the year around.

While mountain lions tend to avoid people, they can and do live in close proximity to humans. They tend to be more active when there is less human presence.



Lynx, for comparison. © DOW.



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

The lion’s staple diet is deer. Deer are often killed with a bite that breaks the neck or penetrates the skull. Sometimes the kill is from a “choking” bite that crushes the windpipe. The carcass is fed upon and the remainder is cached by covering it with leaves, sticks, or conifer needles. After digesting its meal, the lion will return to feed again. This process is repeated until practically all edible portions have been eaten.

Mountain lions also prey upon rabbits and hares, bighorn sheep, elk, raccoons, turkey—even porcupines! They may also prey upon domestic animals such as livestock and pets.

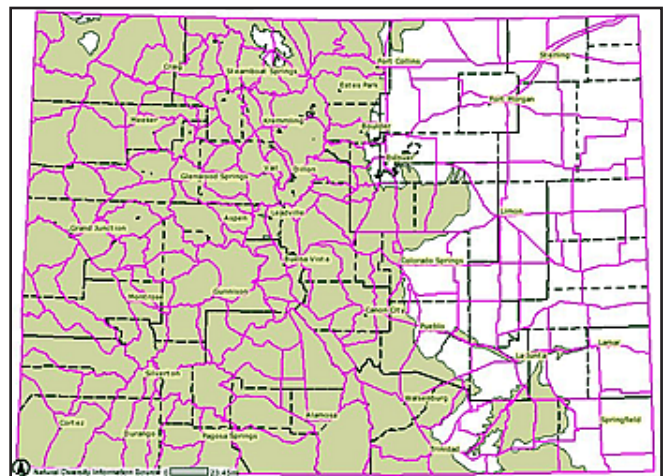
Since deer are the animals most preyed-upon by lions, lions are active when deer are active—at dawn and at dusk—and the lion’s activity peaks during the night. (The dawn-and-dusk pattern of activity is known as crepuscular activity.)

Mountain lions are very difficult to find unless you know what to look for. The most obvious “signs” of a mountain lion you might come across are tracks left in new snow or on soft ground. (More on tracks, later.) Less obvious, but just as telling, is scat (feces) a lion has deposited.

Mating, Breeding, & Raising Young Lions

The importance of female mountain lions cannot be overstated: They bear, nurture, and teach the young lions that will someday replace males and females that have died.

Females begin reproducing when they’re between 1½-2½ years old, and they breed, typically, every other year. Courtship begins when a roaming female in heat makes frequent calls and leaves scent that attracts males. After locating the female, the male accompanies her for just a few days, during which time mating occurs.

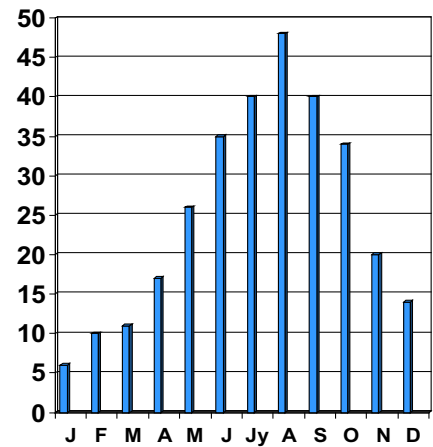


Range of mountain lions in Colorado.

Breeding can take place throughout the year. Most females give birth between May and October, following a three-month gestation period. The average litter-size is three kittens.

Newborn kittens are heavily spotted for the first three months of life, then the spots begin to fade. (Kittens may still have faded spots on their bodies when they are a year old.) At two to three months, the young have been weaned and begin traveling with the mother. The kittens stay with her, usually, until they become independent at about 11 to 18 months old.

Each year about 50% of adult female lions produce kittens, while another 25% have dependent kittens from the previous year. Thus, about 75% of adult females might have dependent young at any given time.



Mountain lion birth pattern.

Mortality in Kittens

Kittens younger than six months old have a 66% chance of surviving to adulthood—with their mother’s care. **Orphaned kittens younger than six months old only have a 4% chance of surviving.** Starvation is the main cause of death in orphaned kittens.

Kittens older than six months have a 95% chance of surviving to adulthood—with their mother’s care. **Kittens older than six months that have been orphaned have a 71% chance of surviving.**

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 and kitten. © DOW.

Hunters Play a Critical Role in Wildlife Management

The Colorado Division of Wildlife is asking hunters, guides, outfitters, and houndsmen to do three things to help ensure that mountain lion hunting is an activity they can continue to enjoy.

- Contact the DOW to learn about the management goals for the area or GMU(s) in which a hunt is being considered. (This information is also available in the Mountain Lion brochure.)
- If the management goal is to maintain or increase the mountain lion population in the GMU, voluntarily refrain from taking female mountain lions. (Reducing female harvest is a sound management strategy based on the reproductive biology of mountain lions.)

- Take plenty of time to determine the gender of the mountain lion. *Make an informed choice.*

Gender identification of mountain lions will help

1. reduce unwanted female mountain lion mortality;
2. reduce mountain lion kitten mortality associated with orphaning;
3. increase hunter satisfaction, and;
4. help the DOW meet management objectives.

Mountain Lion Gender Identification (Sexing) in the Field



Male mountain lion. © Ken Logan.

Sexing 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 and it is usually covered with silver, light brown, and white hair.



Male mountain lion. © Ken Logan.

Look for the black spot and scrotum. The anus is usually hidden below the base of the tail.

Female adult and sub-adult lions do not have the black spot or scrotum behind the hind legs, below the base of the tail. There is just white hair there. The anus is directly below the base of the tail, and the vulva is directly below the anus.

The anus and vulva are usually hidden by the base of the tail.

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.**



Female mountain lion. © Ken Logan.

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

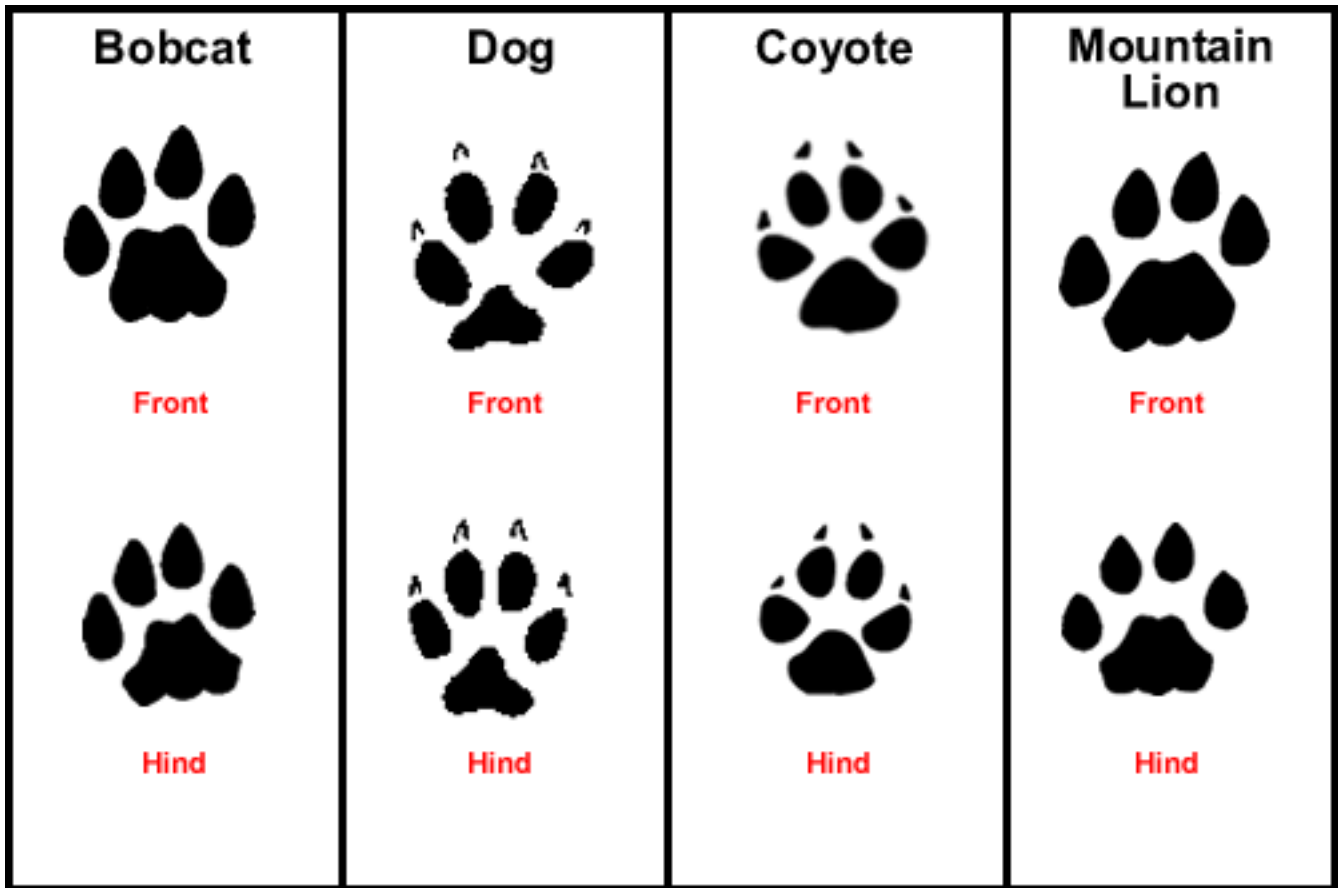
If the lion's position in a tree obscures your view, get the lion to move a bit to give a better angle or position for observing. Try banging a stout branch against the tree trunk, or, if there is snow on the ground, lightly toss a few snow balls toward the lion. Moving around the base of the tree may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

Other Indicators of Gender

Before You Ever See the Lion—

- 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:

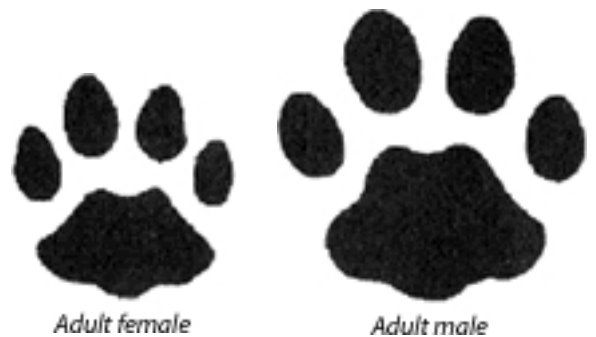


Not to scale. Apparent sizes are not relative.
The front feet of mountain lions, bobcats, and coyotes are normally larger than the hind feet.

Female and Male Mountain Lion Track Sizes:

The largest adult males' 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 gate usually



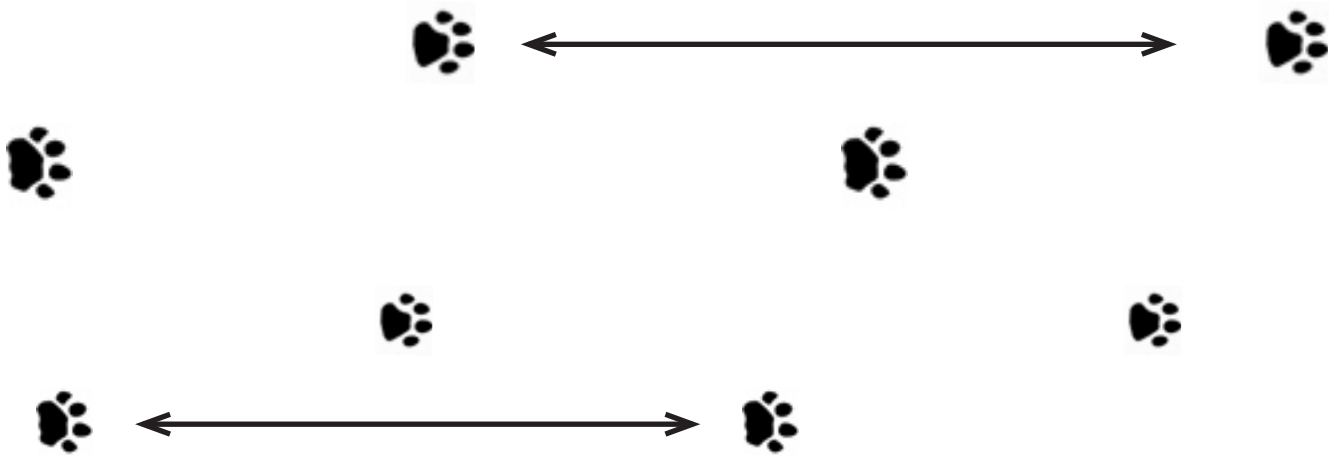
places its hind foot on the track left by the same-side front foot, the hind track will usually be the most distinct and easiest to measure. *The plantar pad width for a female adult lion will usually be less than two inches wide; a male's will usually be greater than two inches wide.*

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". Illustration of tracks, below, shows a male's stride (top) and a female's 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

1. Male and female lions have distinct and identifiable external genitalia. (See pages six and seven.)
2. Use binoculars or scopes when sexing a lion.
3. If treed, a lion can be encouraged to move, perhaps providing a better view to determine gender.
4. 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.

License Requirements

To hunt mountain lions, you must purchase a mountain lion license. *The license must be carried with you while hunting.* Licenses are available online (www.wildlife.state.co.us), or at most DOW offices, and through authorized license agents.

Game Management Units close when the harvest limits are reached. **You must check—daily—while hunting to determine if the GMU you are hunting is still open.** To check, call 1-888/940-LION (5466), **no earlier than 5 p.m. the day before every hunting trip.** The phone recording will announce closed GMUs. If the GMU you are planning to hunt (or are hunting) is closed, you must pick a different unit.

More information is available in the Mountain Lion Brochure, available online or at any DOW office.

(The number to call for daily updates on GMU closures is printed on each license.)



Laws and Regulations

Hunter Education & Safety

Anyone born on or after January 1, 1949, must have successfully completed an approved hunter education course (sanctioned by a state or province) before applying for or purchasing a license. **(Bowhunter education courses are valid for archery licenses only.)** Colorado honors hunter education courses from other states and provinces.

Completion of this course (scoring 80% or higher on the exam portion) is required for anyone who hunts or pursues mountain lions—hunters, guides, outfitters, and houndsmen. (Applies to Colorado residents **and non-residents.**)

A valid hunter safety card must be presented when buying a license (unless you are “verified”). **You also must carry your hunter education card while hunting, unless “V”, for verified, is printed on your license.** (These requirements apply to Colorado residents and non-residents.) Photocopies of hunter education cards are not acceptable.

For complete information about hunter education in Colorado, including what constitutes “acceptable” proof of having completed hunter education, lost card replacement procedures, and a current calendar of hunter education courses offered in Colorado, go online at www.wildlife.state.co.us/HunterEducation.

Minimum Age to Hunt Mountain Lions

Hunters must be at least 12 years old to hunt big game (big game includes mountain lions). An 11-year-old can buy a license if they turn 12 during the season specified on the license. **The license is not valid, however, and the youth cannot hunt, before their 12th birthday.**

Hunters under 16 years-of-age must be accompanied by someone 18 or older who meets Colorado’s hunter education requirements.

Hunting Hours

One-half hour before sunrise to one-half hour after sunset.

Annual Bag Limits

1. One mountain lion of either sex per calendar year.
2. A lion killed during special damage seasons doesn't count toward the annual bag limit.
3. A lion killed on the Southern Ute Indian Reservation does not count toward the annual bag limit.

Colorado Residency

For the purposes of purchasing a hunting license, a Colorado resident is



Mountain lion. © DOW.

1. anyone who has lived here continuously at least six months immediately before buying a license and who intends to make Colorado their home. (Excepting those for whom #2 or #3, below, would apply.);
2. any U.S. armed services personnel, service personnel of U.S. allies, U.S. Diplomatic Service personnel, and personnel of diplomatic services of a nation recognized by the U.S. stationed here on permanent active duty orders. "Active duty" does not include personnel in reserve status or the National Guard, or;
3. full-time students enrolled in and attending a Colorado accredited college or university at least six months immediately before buying a license, including students enrolled but temporarily absent from Colorado.

Fluorescent Orange

Lion hunters are not required to wear daylight fluorescent orange clothing.

Tags

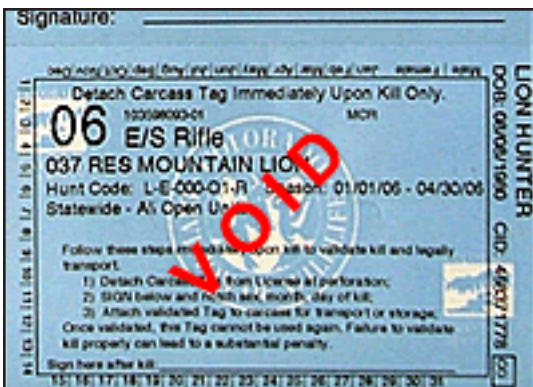
Carcass tags must be attached to the lion you harvest, per instructions on the carcass tag.

Waste of Wildlife

All edible portions of mountain lions must be properly prepared for human consumption. This does not include the internal organs.

Evidence of Sex

1. A mountain lion carcass cannot be legally transported without evidence of sex naturally attached. Evidence of sex means the testicles or penis of a male or the vulva of a female.
2. Evidence of sex is not required when a donation certificate accompanies less than 20 pounds of meat, or after the carcass has been commercially processed, cut into portions, wrapped and frozen for storage, or stored at the licensee's home.



Inspection and Seals

Hunters must contact the DOW (in person or by phone) within 48 hours of a lion kill, providing their name, Customer Identification Number (CID), license number, date and GMU of the lion kill, and sex of the lion. (If you get an answering machine, leave a message with this information.)

Within five (5) days of harvest, the hunter must personally present his or her lion to a DOW office or officer for inspection and seal. The hide or carcass must have been inspected, and the seal must be attached, before it can be accepted by a taxidermist

or tannery for processing. (“Sealing” is the physical inspection of a mountain lion hide or carcass used by DOW personnel to gather information about this secretive animal. A “seal” is a metal tag attached to the hide or carcass after inspection.)



Mountain lion seals.

Also:

- Hides presented for inspection and seal should not be in a frozen condition. A frozen hide or carcass is very difficult to inspect properly.
- Lions, or parts of lions, cannot be taken out of Colorado unless inspected and sealed.
- Lion hides or heads without seals become state property.
- A mandatory check report must be completed during the inspection.
- Inspections and seals are free.
- Seals must stay attached until the hide is tanned.

Legal Methods of Take

1. **Centerfire Rifles Or Handguns:** Bullets must weigh a minimum of 45 grains and must produce a minimum of 400 foot-pounds of energy at muzzle. Rimfires are not legal.
2. **Muzzle-loading Rifles:** Minimum of .40 caliber.
3. **Shotguns:** Minimum of 20 gauge and firing a single slug.
4. **Hand-held Bows:** Long bow, recurve bow or compound bow on which the string is not drawn mechanically or held mechanically under tension. String or mechanical releases that are hand-drawn or hand-held without other attachments or connections to the bow (other than bowstring) are legal.
 - a. Hand-held or hand-drawn bows, including compound bows, must use arrows equipped with a broadhead with an outside diameter or width of at least 7/8 of an inch with at least 2 steel cutting edges. Each cutting edge must be in the same plane for entire length of the cutting surface.
 - b. Minimum draw weight of 35 pounds is required. Let-off percentage maximum of 80%.
 - c. No part of bow’s riser (handle) or track, trough, channel, arrow rest, or other device (excluding cables and bowstring) that attaches to riser can contact support and/or guide the arrow from a point rearward of the bow’s brace height behind the undrawn string.
 - d. Bows can propel only a single arrow at a time. No mechanism for automatically loading arrows is permitted.
 - e. Electronic or battery-powered devices cannot be incorporated into or attached to bow.
 - f. Hydraulic or pneumatic technology cannot be used to derive or store energy to propel arrows. Explosive arrows are prohibited.
5. **Crossbows:**
 - a. Draw weight must be a minimum of 125 pounds.
 - b. Draw length must be a minimum of 14 inches from the front of the bow to the nocking point of the drawstring.



- c. Positive mechanical safety device required.
- d. Bolt must be at least 16 inches long, have a broadhead of at least 7/8 of an inch wide, and have at least two steel cutting edges. Each cutting edge must be in the same plane for the entire length of the cutting surface.



Mountain lion at bay. © DOW.

6. Other:

- a. Electronic calls are illegal, but hand-held calls are permitted.
- b. Bait or baiting is illegal.
- c. Dogs are permitted, but **no more than 8 dogs per pack**. Dogs shall not be used to hunt mountain lions where a regular rifle deer, elk, or moose season is in progress.
- d. ***After a lion has been pursued, treed, cornered, or held at bay, a properly licensed person shall take 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 a member of the hunting party to arrive and take the mountain lion.***
- e. Methods not listed are prohibited.

Remember—

It is illegal to “hunt on private land without first obtaining permission from the landowner or person in charge.”

If dogs, running a mountain lion, cross onto private property, it is the responsibility of the hunter to secure permission before going on to the private land—if the hunter follows without getting permission, he or she can be charged with “unlawfully entering upon private lands without permission to take wildlife. . .” **This charge carries a fine of \$137 plus 20 license suspension points. A mountain lion taken on private property, without permission, is an illegal take, with a fine of \$1370 and 15 license suspension points. (Twenty or more license suspension points can result in loss of hunting privileges for one or more years.)**

Guides And Outfitters

Guides and outfitters must be registered, bonded, and insured to operate in Colorado. They also need permits to operate on public land and must register with the

Office of Outfitter Registration
 1560 Broadway
 Suite 1340
 Denver, Colorado 80202
 303/894-7778
www.dora.state.co.us/outfitters

If your outfitter is arrested for operating illegally, your hunt may be cancelled and your game confiscated. Protect yourself by verifying your outfitter’s registration: Contact the Office of Outfitter Registration or go to the Web site of the Colorado Outfitters Association, www.coloradooutfitters.org.

Colorado Revised Statutes Section 33-6-113

Illegal Sale of Wildlife

(1) Except as otherwise provided in articles 1 to 6 of this title or by rule or regulation of the commission, it is unlawful for any person to sell or purchase or offer for sale or purchase any wildlife or to solicit another person in the illegal hunting or taking of any wildlife for the purposes of monetary or commercial gain or profit. ***For the purposes of this section, it is deemed to be a sale of wildlife if a person, for monetary or other consideration, provides unregistered outfitting services*** as defined in article 55.5 of title 12, C.R.S.

(2) Any person who violates this section:

(a) With respect to big game, endangered species, or eagles, commits a class 5 felony and shall be punished as provided in section 18-1.3-401, C.R.S. Upon such conviction, the commission may suspend any or all wildlife license privileges of the person for a minimum of one year to life.

(b) With respect to all other wildlife, is guilty of a misdemeanor and, upon conviction thereof, shall be punished by a fine of not less than one hundred dollars nor more than one thousand dollars or by imprisonment in the county jail for not more than one year, or by both such fine and imprisonment, and an assessment of twenty license suspension points.

A Last Word

This course does not provide all the information you need to know to safely and legally hunt mountain lions in Colorado. To learn more, obtain and read a copy of the current Mountain Line Brochure, available online (www.wildlife.state.co.us) or through any DOW office. This brochure is updated annually to reflect any changes in applicable rules, laws, and regulations pertaining to hunting mountain lions.

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.

You may now continue to the exam portion of the course. It is an interactive, online exam consisting of 20 true/false or multiple-choice questions. Instructions are found at the beginning of the exam. (The exam is also available in a printed form. Contact a DOW office for more information.) You must achieve a score of 80% (16 correct answers out of the 20) to pass. If you score less than 80% correct, you may take the exam again.

Good luck!



STATE OF COLORADO Bill Ritter, Jr., Governor
DEPARTMENT OF NATURAL RESOURCES Harris D. Sherman, Executive Director
COLORADO DIVISION OF WILDLIFE Bruce L. McCloskey, Director
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www.wildlife.state.co.us