

**New Mexico Department of Game & Fish
Cougar Education & Identification Course**





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Welcome

Cougar. © Don MacCarter NMDGF



The New Mexico Department of Game and Fish is the state agency responsible for managing wildlife, as well as providing wildlife-related recreation. Our public outreach programs promote appreciation, understanding, and stewardship of New Mexico's wildlife. The Department is funded through hunting and fishing license fees and federal grants.

This Cougar Education and Identification Course is MANDATORY for anyone wishing to hunt cougars in New Mexico, and a voluntary course for anyone interested in cougar biology, physiology, and behavior.

The course:

- presents information about cougar biology, physiology, and behavior;
- explains the importance of determining cougar gender for anyone who hunts cougars;
- provides instruction for distinguishing male from female cougars;
- helps cougar hunters make informed choices, improving the hunting experience.

We thank the Colorado Division of Wildlife for providing much of the information presented in this course.

Cougars in New Mexico

Cougars are known by many names, including puma, mountain lion, and panther. The New Mexico State Game Commission and the Department are responsible for establishing, reviewing, and setting rules and regulations for hunting cougars.

Cougar. © Don MacCarter NMDGF



Harvest Management History

Harvest Management History

Cougars were historically considered varmints and there were no limits on the number of cougars that could be harvested each year. Game animal status was awarded in 1971 by the state legislature. Poison, traps, and snares were prohibited, as was killing spotted kittens and female cougars with young. Hunting was limited to the southwest quadrant of New Mexico with a bag limit of 1 cougar, and a 4 month hunting season. This was gradually expanded to include the rest of the state, a bag limit of 2 cougars, and an 11 month season. All harvested cougars were required to be pelt-tagged by Department personnel. The season was later shortened to 4 months with a bag limit of 1 cougar. The current cougar season runs from October 1st through March 31st annually on public lands and from April 1st through March 31st annually on privately owned lands. Zone management of cougars has been in use since the 1999-2000 license year.

Current Harvest Regulations

Based on habitat models designed by the Department, in collaboration with cougar researchers, the 2010 adult cougar population was estimated at 3,123-4,269 independent adults. Cougar hunting is currently regulated by setting harvest limits for the estimated population for each Cougar Zone (comprised of 1 or more Game Management Units) in which cougars can be hunted. Harvest limits are enforced by monitoring the number of cougars reported killed in each Zone as the hunting season progresses, and then closing Zones to cougar hunting when 90% of the harvest limit (or female sub-harvest limit) has been reached. Hunters must have harvested cougar pelts tagged by the department within 5 days of harvest or before leaving the state, whichever comes first.

Cougar Research

Cougars are exceptionally difficult to study because they are secretive and live in rugged habitat. In the 1970s and 1980s, one study in southwest New Mexico attempted to correlate cougar track observations with population trend, and a second study gathered data on cougar ecology and life history traits. Another study in southeastern New Mexico also documented these

traits, and experimental cougar removal was implemented to evaluate its effectiveness on reducing depredation on domestic sheep. In one of the most extensive cougar ecology studies to date, mark-recapture and radio telemetry techniques were used in a 10-year research project on the San Andres Mountains in south central New Mexico. Data on reproduction, survival, mortality, dispersal, social organization, cougar-mule deer and cougar-bighorn interactions, and translocation success were collected. This study was funded by the Wildlife and Sport Fish Restoration Program of the U.S. Fish and Wildlife Service. Cougar removal in one area of the mountain provided insights into re-population rates and patterns. There are currently cougar studies ongoing in New Mexico investigating cougar density and the ability to estimate cougar populations by determining the probability of capturing cougars using camera traps (trail cameras).



Cougar research. © Don MacCarter NMDGF

Physical Appearance

The scientific name given cougars 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, 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.

Cougars are easily distinguished from bobcats. Cougars, except for their kittens, are much larger than bobcats, and have very long tails, measuring approximately one-third of their overall body length.

Bobcat. © Robin Olterman CDOW Cougar



Cougar. © Don MacCarter NMDGF



Range, Habitat & Behavior

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

Cougars are found in most parts of New Mexico—wherever there is an abundance of prey, rough terrain, and adequate vegetation to provide hunting cover. They are active year-round. While cougars 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. The cougar’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 cougar will return to feed again. This process is repeated until practically all edible portions have been eaten. Cougars 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.

© Colorado Division of Wildlife



Cougar 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.

Cougars are most active during the night, with peak activity at dawn and at dusk. The dawn-and-dusk pattern of activity is known as crepuscular activity. Cougars are very difficult to find unless you know what to look for. The most obvious “signs” of a cougar you might come across are tracks left in new snow or on soft ground. Less obvious, but just as telling, is scat (feces) a cougar has deposited.

Mating, Breeding, & Raising Young Cougars

Cougar with kittens. © Don MacCarter NMDGF



Females begin reproducing when they're between 1½- 2½ years old, and they typically breed 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. 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 usually stay with her until they become independent at about 11 to 18 months old. Each year about 50% of adult female cougars 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.

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 cougar 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.

Cougar kitten. © Don MacCarter NMDGF





Hunters Play a Critical Role in Wildlife Management

The Department requires hunters, guides, outfitters, and houndsmen to do three things to help ensure that cougar hunting is an activity they can continue to participate in:

- Take and pass the **MANDATORY** cougar identification course and carry proof of passing the test while hunting.
- Contact the Department toll free at (877) 950-5466 or visit the website at www.wildlife.state.nm.us to learn about management goals, the number of cougars allowed to be harvested, and the female sub-harvest limit, prior to hunting in any GMU or Zone (required before hunting cougar).
- Contact a Department representative to have harvested cougars pelt tagged within 5 days of harvest or before leaving the state, whichever comes first.
- Take plenty of time to determine the gender of the cougar. **Make an informed choice.**

Gender identification of cougars will help:

1. reduce unwanted female cougar mortality;
2. reduce cougar kitten mortality associated with orphaning;
3. increase hunter satisfaction;
4. the Department meet management objectives.

Cougar Gender Identification in the Field

Male cougar. © Ken Logan



Gender identification is easiest when the cougar is treed. **Male adult and sub-adult cougars** 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. **Look for the black spot and scrotum.** The anus is usually hidden below the base of the tail. **Female adult and subadult cougars 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.

Female cougar. © Ken Logan



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 a treed cougar.**

Female cougar. © Ken Logan



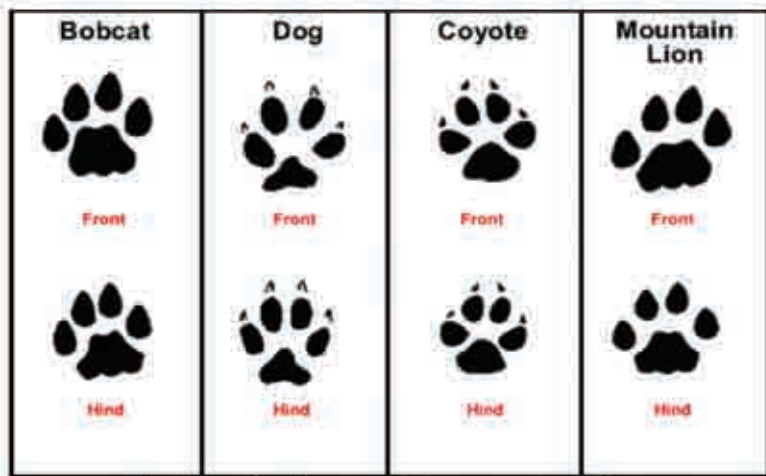
If the cougar's position in a tree obscures your view, get the cougar to move a bit to give a better angle or position for observing. Moving around the base of the tree may get the cougar to change position as it moves to keep you in sight.

Other Indicators of Gender

Before You Ever See the Cougar

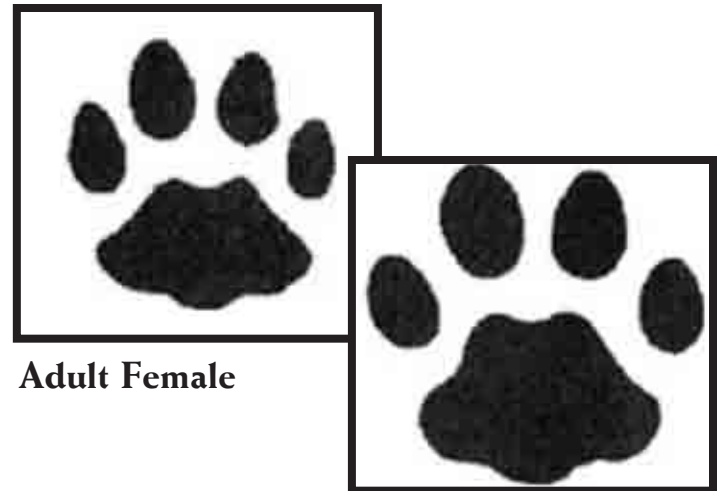
- More than one set of tracks often indicates a female with young.
- Immature males may leave tracks as large as their mother's.
- Stride length can be measured to help distinguish a mature male from a female or immature male.
- Track size can help you tell a mature male from a female.

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 & Male Cougar Track Sizes



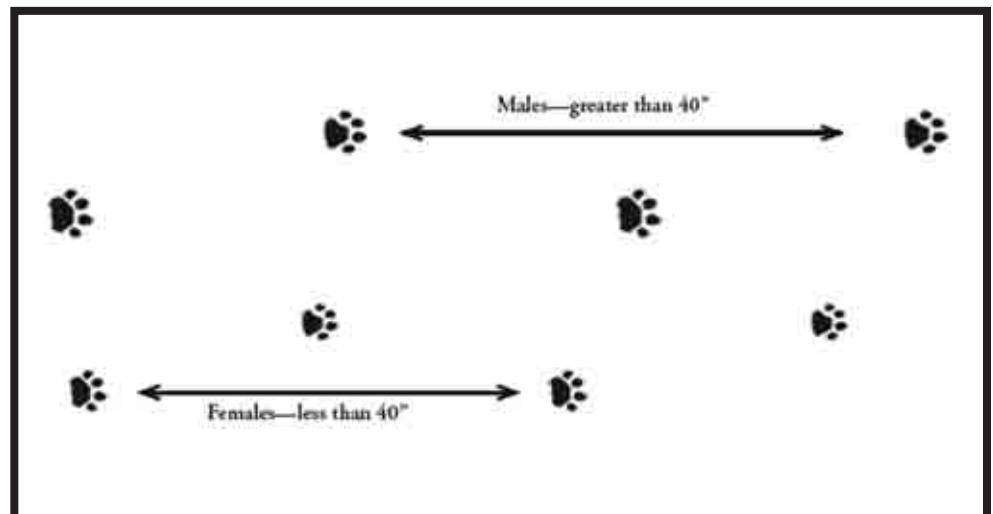
The largest adult males' tracks may be up to 5" wide; the average male will have tracks approximately 4" wide. Adult females leave tracks of 3.5" in width or less. (Note, too, that the front feet are normally larger than the hind feet.) Another way to determine gender from tracks is to measure the plantar ("heel") pad. Since a cougar 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 cougar 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 cougar'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 cougars will have a shorter stride, measuring less than 40". 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.
- Pace of the cougar's travel.
- Tracks may have been left by a sub-adult.



Review

Cougar pads. © Don MacCarter NMDGF

1. Male and female cougars have distinct and identifiable external genitalia;
2. Use binoculars or scopes when determining the gender of a cougar;
3. If treed, a cougar can be encouraged to move, perhaps providing a better view to determine gender;
4. Tracks, individually or in a trail, can be used to obtain a preliminary determination of gender.
5. Be aware of the factors that can lead to misinterpretation.
6. Observing a cougar urinate can also assist in determining gender. The urine of females comes from under the base of the tail, and male urine comes from farther down between the legs, about 4-5 inches below the anus.



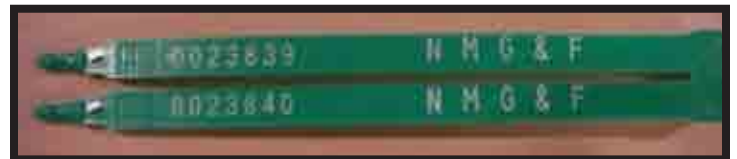
License Requirements

To hunt cougars, you must purchase a cougar license and valid carcass tag a minimum of 48 hours before hunting. **The license and carcass tag and proof of passing the cougar identification test must be carried with you while hunting.** Licenses and carcass tags are available online (www.wildlife.state.nm.us), at Department offices, and through authorized license vendors. Cougar Zones close when either 90% of the total harvest limit or female sub-harvest limit is reached. **It is your responsibility to contact the harvest hotline at 877-950-5466, or www.wildlife.state.nm.us before hunting** to ensure that the Cougar Zone you are hunting in is open.

Laws and Regulations

1. Hunting season is Oct. 1 – March 31 on public land, and Apr. 1-March 31 on private land.
2. Written permission must first be secured when hunting on private land.
3. Hunting hours are one-half hour before sunrise to one-half hour after sunset.
4. Use of dogs is permitted. The licensed hunter must be present when dogs are released and dogs must be released during legal shooting hours.
5. Annual bag limit is one cougar of either sex per hunting season.
6. Any spotted kitten, or any female accompanied by spotted kittens, may not be harvested.

Cougar pelt tags



7. All cougars are required to be tagged with a carcass tag immediately after harvest.
8. The cougar pelt with proof of sex attached and the UNFROZEN skull must be presented to any District Conservation Officer or Department office for pelt tagging within 5 days of taking the cougar, and before it is taken out of New Mexico.
9. Other laws and restrictions apply. Please consult the current Big Game and Trapper Rules and Information booklet for details.

A Last Word

[Click here](#) to take the cougar quiz. This course does not provide all the information you need to know to safely and legally hunt cougars in New Mexico. To learn more, obtain and read a copy of the current Big Game and Trapper Rules and Information booklet, available online (www.wildlife.state.nm.us), through any Department office, and at many license vendor locations.

Thank You!

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This completes the instructional portion of the Cougar Education and Identification Course. Thank you for taking the time to study this material.



New Mexico Department of Game & Fish
1 Wildlife Way • Santa Fe, NM 87507
www.wildlife.state.nm.us • 505-476-8000