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Parks Affected: All

# Large Predator Management



## ISSUE

Interactions between park visitors and large mammalian predators (mountain lions, black bear, and coyotes) are uncommon but are potentially dangerous. Several factors have contributed to a growing incidence of human-predator interactions.



*Black bear*

Chief among them are increasing urbanization, and a growing interest among the general public in interacting with wild animals

### A New Habitat

Human settlement offers wildlife new sources of food, usually in great abundance. Lawns and landscaping attract concentrations of mule deer, garbage attracts bear, raccoons, skunks, and other medium sized mammals. When deer and other prey items concentrate in one area, mountain lions are attracted from surrounding wild lands. Having found their natural prey congregating in human settlements, mountain lions begin to have repeated positive experiences. They slowly become habituated to this new "habitat". The availability of pets and pet food may solidify the positive association. The most critical element in the acceptance of human settlement is probably the change in human behavior. In the past



*Mountain Lion or Cougar*



*Coyote*

farmers and ranchers would shoot, poison and do whatever they could to keep lions from their property. However, nowadays many rural landowners would prefer attracting and photographing a lion to harming or scaring it. Consequently, some mountain lions have lost their wariness around humans and human activities.

A similar pattern can be traced for black bears and coyotes. The advantages of the suburban lifestyle may be more associated with garbage and composting kitchen wastes for bears. Coyotes may prefer the availability of cats and small dogs at feeders, pet food, and garbage.



## Successful Generalists

These three animals share an important common trait. They have been successful because they are habitat generalists. They are capable of adapting to a variety of natural environments. It is not surprising therefore, that they should be well adapted to survive in human dominated landscapes. Fortunately, this adaptability is balanced by another survival mechanism--general preference to avoid confrontations with people.

## **Intent**

The intent of this management prescription is to provide park managers with:

- 1. Recommendations to help foster coexistence between humans and large mammalian predators by minimizing opportunities for human-predator contact; and**
- 2. A set of response guidelines for use when interactions do occur**

## **Description/Natural History**

The Colorado Division of Wildlife has prepared three excellent summaries describing the natural history of lions, black bears, and coyotes in the context of avoiding interactions. These “Living with Wildlife” documents are available over the internet and are attached to this prescription.

## **Stewardship**

Coexistence with mammalian predators at state parks is a complicated issue. The situation can be divided into three major components: Park Operations, Visitor Education, and Neighborhood Outreach.



*Bear proof garbage can insert*

### Park Operations

Park facilities should be examples of how to encourage coexistence between predators and humans. All garbage from park offices should be secured in predator proof containers or kept inside until picked up for disposal at the landfill. If trash disposal cans are provided elsewhere in the park, these should be protected with “bear-proof” inserts (see figure) to discourage predators.

### Visitor Education

Park visitors need to be aware of the presence of predators; they need to know how to behave to avoid incidents, and how to respond should they encounter a lion, bear, or coyote.

Information about the presence of predators should be included in the park brochure and on trailhead bulletin boards and signs. The Colorado Division of Wildlife (CDOW) has produced signs advising people that they are entering “lion country” or bear country”. These are available through the local District Wildlife Manager (DWM). All park staff members should be familiar with the



presence of these species and the relative incidence of sightings and other interactions.

The CDOW has produced signs and brochures describing behaviors and activities that can reduce the likelihood of incidents with bears, lions, and coyotes. These are available from local DWM's. Some of the essential concepts from these documents are summarized here:

- Keep pets under control.
- Do not leave pet food outside.
- Bring pets in at night.
- Store all garbage securely
- Dispose of garbage properly. Use bear-proof garbage cans where available or secure it with your food and then pack it out. Do not burn or bury garbage.
- Keep your camp clean. Store food and garbage properly at all times. Keep your tent and sleeping bag free of all food smells. Store the clothes you wore while cooking or eating with your food. Burn all grease off grills and camp stoves. Wipe table and clean up eating area thoroughly.
- Store your food safely. Store all your food and coolers in your car trunk or suspended from a tree – at least 10 feet off the ground and 4 feet out from the tree trunk.
- Sleep well away from food areas. Move some distance away from your cooking area or food storage site.
- Store any toiletries safely. Store them with your food. The smell of toiletries may attract bears.
- Abstain from sexual activity.
- Practice good personal hygiene.
- Hiking at dawn or dusk may increase your chances of seeing wildlife and your risk of meeting a bear, lion, or coyote.
- Use extra caution in places where hearing or visibility is limited: in brushy areas, near a stream, where the trail rounds a bend or on windy days. Reduce your chances of surprising a bear, lion, or coyote by making noise, talking or singing.
- Make sure children are close to you or at least within your sight at all times.

People seldom see more than a fleeting glimpse of a mountain lion or black bear, and rarely observe a coyote except from a distance. Attacks are extremely rare and fatalities extremely infrequent. Should a visitor encounter a lion, bear, or coyote, she should know how to respond. This knowledge could save a life. The CDOW “Living with Wildlife” series also covers response to chance encounters. The following recommendations are taken directly from the CDOW brochures.



Remember that there are no absolute facts about how wildlife will behave. However, based on observations by people who have encountered lions, bears and coyotes, some patterns of behavior and response have begun to develop. Nevertheless, every situation is different with respect to the animal, the terrain, the people, and their activity.

### **MOUNTAIN LION** (from Living with Wildlife in Lion County, CDOW)

When you walk or hike in mountain lion country, travel in groups and make plenty of noise to reduce your chances of surprising a lion. A sturdy walking stick is a good idea; it can be used to ward off a lion. Make sure children are close to you and within your sight at all times. Talk with children about lions and teach them what to do if they meet one.

Do not approach a lion, especially one that is feeding or with kittens. Most mountain lions will try to avoid confrontation. Give them a way to escape.

- **STAY CALM** when you come upon a lion. Talk calmly yet firmly to it. Move slowly.
- **STOP OR BACK SLOWLY**, if you can do it safely. Running may stimulate a lion's instinct to chase and attack. Face the lion and stand upright.
- **DO ALL YOU CAN TO APPEAR LARGER**. Raise your arms. Open your jacket if you are wearing one. If you have small children with you, protect them by picking them up so they will not panic and run.
- If the lion behaves aggressively, **THROW STONES, BRANCHES** or whatever you can get your hands on without crouching down or turning your back. Wave your arms slowly and speak firmly. What you want to do is convince the lion you are not prey and that you may in fact be a danger to the lion.
- **FIGHT BACK** if a lion attacks you. Lions have been driven away by prey that fights back. People have fought back with rocks, sticks, caps, or jackets, garden tools and their bare hands successfully. Remain standing or try to get back up!

### **COYOTE** (From Living with Wildlife in Coyote Country, CDOW)

- Coyotes provide an enjoyable wildlife viewing experience. Keep your distance and do not approach the animals. Enjoy the opportunity to view wildlife.
- **KEEP YOUR PETS ON A LEASH** when walking them.
- If a coyote approaches you or your pet, you can **THROW ROCKS OR STICKS** to frighten it away.
- Use a **LOUD, AUTHORITATIVE VOICE** to frighten the animal.



## **BLACK BEAR** (from Living with Wildlife in Bear Country, CDOW)

- **STAY CALM.** If you see a bear and it has not seen you, calmly leave the area. As you move away, talk aloud to let the bear discover your presence.
- **STOP.** Back away slowly while facing the bear. Avoid direct eye contact, as bears may perceive this as a threat. Give the bear plenty of room to escape. Wild bears rarely attack people unless they feel threatened or provoked.
- If on a trail, step off the trail on the downhill side and slowly leave the area. **DO NOT RUN** or make any sudden movements. Running is likely to prompt the bear to give chase and **YOU CANNOT OUTFRAN A BEAR.**
- **SPEAK SOFTLY.** This may reassure the bear that no harm is meant to it. Try not to show fear.
- Coming between a female and her cubs can be dangerous. If a cub is nearby, try to move away from it. Be alert – other cubs may be in the area.
- Bears use all their senses to try to identify what you are. Remember: Their eyesight is good and their sense of smell is acute. If a bear stands upright or moves closer, it may be trying to detect smells in the air. This is not a sign of aggression. Once it identifies you, it may leave the area or try to intimidate you by charging to within a few feet before it withdraws.
- **FIGHT BACK** if a black bear attacks you. Black bears have been driven away when people have fought back with rocks, sticks, binoculars, and even their bare hands.

### Neighborhood Outreach

Many park managers find that human/predator management within the boundaries of the park is overwhelmed by the actions of their neighbors. Park managers may decide to undertake a program of neighborhood outreach to help reduce the likelihood of human/predator interactions. Elements of an outreach program can include:

- Cooperative educational efforts with the local DWM
- Presentations at homeowner association meeting
- Advertisements, editorials, and articles in the local newspaper
- Community meetings

These meetings can be excellent opportunities to explain the issue from a perspective that may be new to the neighbors. Most of the human behaviors that cause problems are borne out of a desire to co-exist with the animals rather than a desire to create safety conflicts that could lead to the animal's destruction. Distributing the "Living Together with Wildlife" brochures and fostering an open discussion about the impacts of human habitation upon wildlife can build community support for a program of true coexistence.



## Response

The CDOW has established a set of definitions for terms used to describe different types of human lion interactions. These definitions are also useful when considering bear and coyote interactions (though attacks on humans are much less probable with coyotes). The terms are given in the table below.

Term	Definition
Sighting/Report:	A visual observation of an animal or report of animal tracks or other sign.
Recurring Sighting:	Repeated sightings of a particular animal.
Encounter:	An unexpected direct meeting between a human and an animal without incident.
Incident:	A conflict between a human and animal that may have serious results (e.g. an animal that must be forced to back down).
Attack:	When a human is bodily injured or killed by contact with an animal.
Depredation	When a animal kills or injures livestock or domestic pets
Nuisance Animal	An animal involved in an encounter or predation
Depredating Animal	An animal which injures or kills livestock or domestic pets
Aggressive Animal	An animal exhibiting aggressive behavior or unnatural interest in humans without provocation

Park staff should take the following actions in accordance with the relevant interaction.

### Sighting/Report

- Interview the reporting party. Complete a Human-Predator Interview Form. The form is used to document the interaction and the park manager's response.
- A field response should be made to any sighting in the past 12 hours when the animal/s presence, location, or behavior is likely to result in recurring sightings, or an incident, attack or encounter. The park manager should be informed immediately when a field response is warranted. Other sightings may be responded to at the park manager's discretion.

### Recurring Sightings

- Same as for Sightings/Report
- Consider posting lion/bear/coyote notice in the vicinity of the sightings
- Notify landowner (if other than State Parks) and the local DWM.

### Encounter

- Field response is required.
- Notify DWM within 24 hours.

### Incident

- Field response is required.
- Park Manager should be notified immediately
- Post the vicinity with strongly worded signs directing visitors to avoid the area



- Notify Regional Manager and local DWM immediately.

### Attack

- Same as for Incident
- Notify Sheriff (If a person is killed, notify the coroner, and request a Victim Advocate if necessary).

### Lion Caches

When lions kill a deer or other large animal, they frequently cover the uneaten portion with sticks, leaf litter, etc. for later use. These partially buried carcasses are referred to as caches. Caches near areas of human use can pose a serious risk to park visitors, as lions are particularly defensive of their food.

Caches should be moved to a remote area if:

- The cache is located in an area receiving heavy public use or
- The cache is within 200 yards of trail or trailhead

### Hazing

When responding to the site of a recurring sighting, encounter, incident, or attack, park managers may choose to haze the animal to discourage its return. Hazing can be accomplished with a number of tools including airhorn, blanks, and rubber shot. This prescription does not set any policy for the use of firearms by state parks personnel. Such policies must be consistent with the appropriate laws, standards, and operational procedures of State Parks' law enforcement program.

The following guidelines are used by City of Boulder Open Space Department:

- Officer and public safety are of primary concern in all lion and bear interactions.
- If a lion or bear is reported or encountered that does not show fear of humans then a ranger should haze the animal as soon as it is safe to do so. The CDOW does not recommend hazing of lion or bears when the animals are in a tree.
- Lone officers must not haze lions or bears.

The following use of force continuum ranks response from low level of force to high. As with any continuum, the officer need not employ the lowest level of force before advancing to the next highest level. The officer may initiate a reasonable and necessary response at any level in the continuum.

- Audio hazing (airhorn, vehicle sirens, discharge of “blanks” etc.) and exaggerated physical presence
- Throwing of rocks, sticks, etc.
- Use of chemical repellents
- Discharge of firearm to hit the animal with rubber ammunition
- Discharge of firearm to hit the animal with standard issue ammunition



A lion or bear **can** be fatally injured by rubber projectiles (shotgun pellets and slugs). Therefore always maintain proper distance between the officer and the animal being hazed with rubber ammunition.

- When hazing a lion with rubber shot, a minimum distance of 15 yards must be maintained between the animal and the shooter.
- When hazing a bear with rubber shot, a minimum distance of 25 yards must be maintained between the animal and the shooter.
- When hazing a lion or a bear there must be a back up shooter with a shotgun loaded with 00 buckshot or slugs.

Officers must always be aware of background and surroundings when discharging a weapon. There does not appear to be a significant risk of ricochet when using rubber projectiles.





## CONTACTS

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### **Colorado Division of Wildlife (CDOW)**

*Response to incidents, brochures, signs, assistance with bear/coyote/lion proofing facilities.*

***For Emergency Response  
Dial 911***

*District Wildlife Managers should be notified in case of an incident involving a lion, bear or coyote.*

#### *CDOW Regional Offices*

Colorado Springs	719-227-5200
Denver	303-291-7227
Ft. Collins	970-472-4300
Montrose	970-252-6000
Grand Junction	970-255-6100

#### Educational Materials Available from the CDOW via the Internet

Living with Wildlife in Bear Country

<http://www.dnr.state.co.us/wildlife/Education/LivingWithWildlife/BearCountry.htm>

Living with Wildlife in Coyote Country

<http://www.dnr.state.co.us/wildlife/Education/LivingWithWildlife/CoyoteCountry.htm>

Living with Wildlife in Lion Country

<http://www.dnr.state.co.us/wildlife/Education/LivingWithWildlife/AnimalCountry.htm>

### **City of Boulder Open Space Program**

*Information on other guidelines such as: wording of warning and closure signs, criteria for moving a mountain lion cache from near a trail, criteria for destroying a lion, etc.*

Cary Richardson, Wildlife Biologist  
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303-441-3440





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Tracy, D.M. 1982. Black bear bibliography. Alaska Cooperative Park Studies Unit. Biology and Resource Management Program. University of Alaska. Fairbanks, Alaska. National Park Service. 328 pp. (there are 208 citations under the key word "attack")



# Human-Predator Interaction Interview Form

## Record Type

Sighting:	A visual observation of an animal
Sign:	Scat, kill, tracks
Encounter:	An unexpected direct meeting between a human and an animal without incident.
Incident:	A conflict between a human and animal that may have serious results (e.g. an animal that must be forced to back down or an animal killing a pet).
Attack:	When a human is bodily injured or killed by contact with an animal.

Sighting       Sign       Encounter       Incident       Attack

Number of animals involved:      Adults \_\_\_\_\_      Young \_\_\_\_\_

Date Interaction Occurred (dd/mm/yy)      \_\_\_\_/\_\_\_\_/\_\_\_\_

Military Time (hh:mm)      \_\_\_\_:\_\_\_\_

### **For Attacks**

Victim's Name (Last/First): \_\_\_\_\_

Address: \_\_\_\_\_

Tel. \_\_\_\_\_

Victim's Age \_\_\_\_\_      Fatal? YES NO

## LOCATION INFORMATION

Specific Location:

Location Address (if applicable): \_\_\_\_\_

Subdivision Name (if applicable): \_\_\_\_\_

Nearest Town/City: \_\_\_\_\_      Distance: \_\_\_\_\_

County: \_\_\_\_\_      Elevation: \_\_\_\_\_      Drainage: \_\_\_\_\_

Township \_\_\_\_\_      Range: \_\_\_\_\_      Section \_\_\_\_\_

¼ Sec \_\_\_\_\_

General Description of Vegetation: \_\_\_\_\_

## BEHAVIORAL INFORMATION

1. What actions did the people take?

Waved Arms \_\_\_\_\_ Backed Away \_\_\_\_\_ Threw Rocks \_\_\_\_\_  
Other \_\_\_\_\_ Talked \_\_\_\_\_

Explain Other: \_\_\_\_\_

2. What action did the animal take?

Watched \_\_\_\_\_ Lip curl \_\_\_\_\_ Show Teeth \_\_\_\_\_  
Growled \_\_\_\_\_ Fled \_\_\_\_\_ Crouched \_\_\_\_\_  
Attacked \_\_\_\_\_ False charge \_\_\_\_\_ Other \_\_\_\_\_

Explain Other: \_\_\_\_\_

## Reporting Party Information

Reporting Party Name: \_\_\_\_\_

Address \_\_\_\_\_

Tel. (h) \_\_\_\_\_ (w) \_\_\_\_\_

Call received by: \_\_\_\_\_

Call response by: \_\_\_\_\_

Brochure Mailed? \_\_\_\_\_

Other Information Mailed: \_\_\_\_\_

## CDOW Action

**Primary Action** Phone Call \_\_\_\_\_ Onsite Visit \_\_\_\_\_

**Follow Up** Public Meeting \_\_\_\_\_ Other: \_\_\_\_\_

**Disposition** No action \_\_\_\_\_ Mace \_\_\_\_\_ Rubber Shot \_\_\_\_\_  
Killed \_\_\_\_\_ Seal Number: \_\_\_\_\_  
Other \_\_\_\_\_

## General Comments

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