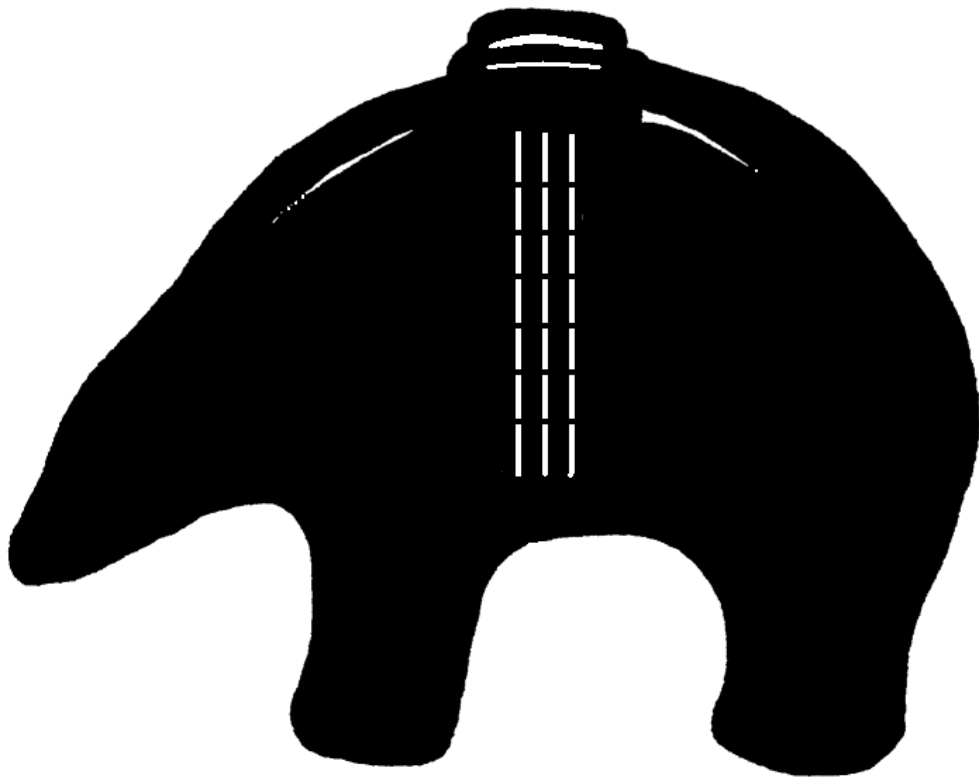


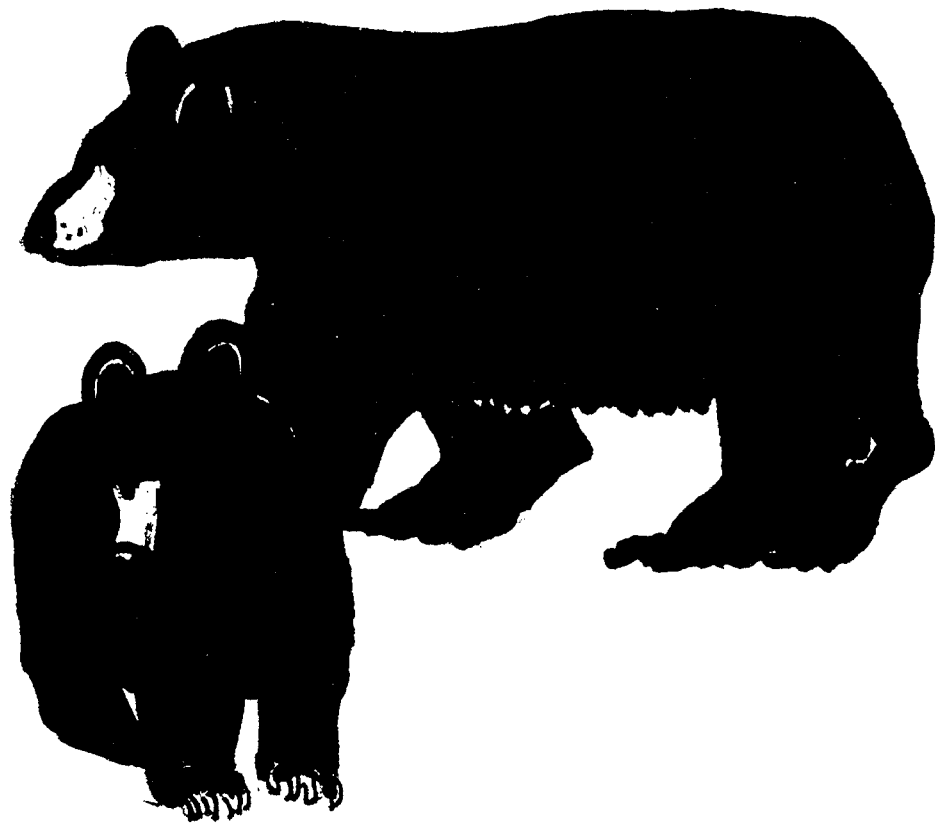
A GUIDE FOR WILDLIFE STEWARDS



HOW TO COEXIST WITH OUR WILDLIFE

**BY SANDIA MOUNTAIN
BEARWATCH**

Sandia Mountain BearWatch disclaims and does not assume any liability for any injuries or property damage that may result from contact with wild animals as described or implied in this book. We have emphasized repeatedly that all wild animals are dangerous, especially if approached, and whenever possible have recommended methods of resolving problems of wildlife-human interaction that do not necessitate approaching or handling the animals.



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INTRODUCTION

Dear Wildlife Stewards,

The information in this book was compiled from many sources as a learning guide and wildlife reference for you. We hope you will take the time to read it thoroughly. It is filled with fascinating facts about the wildlife the surrounds you.

BearWatch members have spent many hours preparing this book in hopes that you will share this knowledge with your neighbors. Please contact all your neighbors in your designated area to let them know you are a BearWatch Wildlife Steward. Let them know that you are willing to answer any questions or concerns about specific wildlife problems they should have and that you are there to help them with a humane solution. Write informative wildlife articles for your homeowner association newsletters. Give talks or written information to local schools, churches and groups. Be as interactive as possible.

Be aware, that we cannot solve all wildlife problems, and that human safety and welfare should always come first.

Please feel free to call me a 281-9282 or Jeff Davis at 286-6185 or New Mexico Game and Fish at 841-8881/476-8000 should a serious wildlife problem arise. Also, Wildlife Rescue of New Mexico at 344-2500 can help.

Progress is slow and sometime discouraging in wildlife conservation. But, we are seeing some positive results in the Sandia and Manzano Mountains and statewide in bear conservation since we started this endeavor. But there is more work to be done here and in the state for this wonderful animal.

Thank you for taking your time to educate your neighbors on how to live with the black bear and other wildlife. It's a noble cause to protect a wild animal.

When I become discouraged, I just visualize a scene of a high mountain meadow with a mother black bear lying on her back among the wildflowers nursing two cubs. That brings it all into perspective.

A handwritten signature in black ink that reads "Jan Hayes". The signature is written in a cursive, flowing style.

Sandia Mountain BearWatch

ADDRESSES

SANDIA MOUNTAIN BEARWATCH

Jan Hayes
P. O. Box 591
Tijeras, NM 87059
(505) 281-9282
jan@janhayes.com

Jeff Davis
(505) 286-6185

NEW MEXICO DEPT. OF GAME AND FISH

3841 Midway Pl., NE
Albuquerque, NM 87109
(505) 841-8881
(505) 841-8888
www.gmfsh.state.nm.us

NEW MEXICO DEPT. OF GAME AND FISH

P. O. Box 25112
Santa Fe, NM 87504
(505) 476-8000
www.gmfsh.state.nm.us

OPERATION GAME THIEF

1-800-432-4263

CIBOLA NATIONAL FOREST SANDIA RANGER DISTRICT

11776 Hiway 337
Tijeras, NM 87059
(505) 281-3304

FOR INFORMATION AND HELP FOR SICK AND INJURED WILDLIFE, CALL:

New Mexico Dept. of Game and Fish	
(Albq. Office)	841-8881
(Santa Fe Office)	476-8000
Wildlife Rescue of New Mexico	344-2500
Talking Talons	281-1133
The Wildlife Center – Dr. Ramsay	753-9505
Bernalillo Animal Control	873-6706

****Be sure and leave your name and phone number with each call for follow up.

If a wild animal appears ill (by being too friendly or aggressive, acting strangely, going around in circles, falling over, salivating), be very careful to stay out of harms way. You will need to have one person keep it in sight and another person to call the above numbers until you find help.

If an animal is injured but still up and walking (like a deer) leave it alone, it may make it. However, if an animal is down, you will need to call the above numbers until you get help.

For birds, call Wildlife Rescue 344-2500 or Talking Talon at 281-1133 immediately for instructions.

PET/WILDLIFE PROBLEMS

*****BE RESPONSIBLE FOR YOUR PETS*****

FENCE YOUR DOGS:

Dogs can pose a serious problem for a multitude of wild creatures and in addition, wildlife can cause devastating problems for dogs. BearWatch recommends invisible fencing (an electric underground cable transmitting to a dog collar). It is aesthetically pleasing to the eye and really works!

Following are the reasons you should fence your dogs:

1. It is the county law that all pets be fenced.
2. When left to roam freely, dogs can often form packs and harass or kill wildlife. This is especially true in mountain and foothill subdivisions. A pack of dogs....well fed or not....will often kill or mutilate deer and domestic livestock (as we have recently read about in the East Mountain Telegraph). Lone dogs, also, when not fenced can kill an enormous variety of wildlife.
3. Unfenced dogs can spread diseases to wildlife especially if the dog's vaccinations are not up to date. Even if the dog's vaccinations are up to date, a dog could infect wildlife with diseases that are not covered with vaccinations.
4. When left unattended, dogs can be potential food for coyote, bobcat and mountain lion. The East Mountains are mountain lion country. Your dog should be kept in a sturdy, covered kennel or inside your home.
5. Dogs that are not fenced can pick up fleas from wild animals. These fleas could infect the dog with bubonic plague. In addition, if the dog comes into human contact, the fleas could infect the person with the plague or if the dog is infected with the plague, the dog could give it directly to the person.

VACCINATE YOUR DOGS:

Dogs can spread rabies, distemper, mange and other canine diseases to wildlife. Likewise, wildlife can infect dogs with these diseases and the dogs could then infect you with these same diseases.

OTHER RESPONSIBILITIES YOU HAVE FOR YOUR DOGS:

Besides fencing and vaccinating your dogs, you are also responsible for the following:

1. Respect nature and your neighbor's space by keeping your dogs quiet and under control.
2. Dispose of dog droppings to prevent infections.

KEEP CATS INDOORS:

Cats should be kept indoors if at all possible. If this is not possible, they should not be allowed to roam freely when out of doors. The reasons are as follow:

1. Cats kill millions of song birds a year and prey upon small ground dwelling wildlife as well. It is important that you keep your cats under control, especially during the spring nesting season. Leash them or put a bell on them.
2. They can also become part of the food chain when allowed to roam. They are easy prey for mountain lions, bobcats, coyotes, foxes, owls and hawks.
3. Cats that are not kept indoors or kept under control when outdoors can pick up fleas from wild animals. These fleas could infect the cat with bubonic plague. In addition, if the cat comes into human contact, the fleas could infect the person with the plague or if the cat is infected with the plague, the cat could give it directly to the person. Cats can also hunt and kill rodents, which are carrying Hantavirus and bring it back to your home. If a person comes into contact with the infected rodent, the person could then become infected with Hantavirus.

VACCINATE YOUR CATS: Cats can spread distemper and that can have a devastating result on a wildlife population. In addition, a cat that does not have its vaccinations up to date could become infected by wildlife.

WILDLIFE HABITAT

People are often surprised to learn that many hundreds of species of mammals, birds, amphibians, and insects make their homes on privately held farms and ranches, smaller properties, and backyards, not just in the vast open expanses of public forest and meadowlands. In fact, private landowners provide the bulk of the food and habitat for wildlife in this country. After all, private landowners control up to 70 percent of the land, and many wild creatures make their homes where they find them.

As a landowner of a forested property or a property in proximity to the national forest, there are a number of specific steps you can take to maintain and improve your property as habitat for East Mountain wildlife. Habitat is a combination of sources of food, water, cover, shelter, and space arrayed to meet the needs of wildlife. Not surprisingly, habitat requirements vary with wildlife species. Thus, the key principle in managing land for wildlife benefits is to introduce and maintain vegetation and habitat diversity.

In planning to improve your property for wildlife, you must first take note of the existing numbers and types of wildlife using it. Wildlife habitat does not just expand over the horizontal space of your yard or property. Different wildlife species live in each of the zones defined in the vertical progression from the forest canopy, through the understory vegetation, to the floor, and the basement in the soil. Planning for provision of wildlife habitat may consider each of these zones and spaces.

Plan to plant or maintain a variety of trees, shrubs, plants, flowers, and groundcovers. Native species adapted for your elevation are better suited for providing wildlife habitat because they are adapted to the local soil, climate, and wildlife needs. Example species that work well in wooded elevations above 7000 feet are woods rose (used by quail, grouse, and turkey), chokecherry and golden currant (sources of food and shelter), gambel oak (acorns for bear and turkey and browse for deer), quaking aspen (high food value for browsers), and New Mexico locust (flowers and pods for browse). Tall native grasses and wildflowers are beautiful in the landscape and also provide food and shelter. Tree, shrub, and plant selection can meet the aesthetic needs of the landowner as well as provide the food, shelter, shade, and cover needs of wildlife.

An often overlooked but critical element of natural wildlife habitat is the presence of dead, dying, and downed trees in the landscape. Too often, landowners eliminate all dead and dying trees and downed material. Foresters call dead standing trees “snags” and downed trees, logs, stumps, and large slash “coarse woody debris”.

Woodpeckers, flickers, and other primary cavity nesters will excavate holes in dead wood for nesting sites, and secondary cavity nesters such as bluebirds and squirrels use the existing holes created by the primary cavity excavators for nests and food caches. Hollow standing and downed trees of many sizes are especially valuable to a number of bird and animal species, for example, those greater than three feet in diameter suit New Mexico’s black bears. Eagles, hawks, owls, and ospreys will use

snags that have broken tops for nest building or as launch sites for foraging. Some birds, including migratory songbirds and Mexican spotted owls, will build nest platforms using dwarf mistletoe brooms such as those that infect dying East Mountain pinions and junipers, and other animals and birds (mule deer, elk, squirrels, chipmunks, porcupines, and blue grouse) even feed on dwarf mistletoe.

Landowners can also consider developing water structures in order to benefit wildlife. One option is to install rain traps on slopes to catch and retain surface water runoff. You can pump water from your house or a well or even capitalize on flow from natural springs in order to build a pond for wildlife use. Water sources developed specifically to benefit wildlife should be fenced off from competing and trampling livestock. Don't forget that you can introduce salt licks or protein blocks that provide supplemental nutrients for deer and elk.

The National Wildlife Federation (NWF) sponsors a certification program designed to assist individual landowners who want to build wildlife habitat on their small properties. The NWF Backyard Wildlife Habitat Program will help you formulate and then apply a wildlife habitat plan for your home site or small acreage. You can request an application package and instructions from them at the address below, and if your application meets their criteria, they will send you a certificate. In addition, if you request it, they will send you a sign to show your commitment to wildlife conservation. Contact:

Backyard Wildlife Habitat Program, National Wildlife Federation, 8925 Leesburg Pike, Vienna, VA 22184-0001 <http://www.nwf.org>

You can also learn more on a monthly basis about the wide variety of forestry, water & soil conservation, and habitat topics discussed in this section by attending East Mountain Back Yard Tree Farm (BYTF) meetings and perhaps becoming a paid member with the contribution of \$25 a year (which also buys you a magazine subscription to the American Forest Foundation *Tree Farmer* magazine). Contact: George Duda, BYTF Treasurer. 12345 Eagle Rock N.E., Albuquerque, NM 87122. 505-856-6055

“For the fate of the sons of men and the fate of beasts is the same; as one dies, so dies the other. They all have the same breath, and man has no advantage over the beasts; for all is vanity. All go to one place; all are from the dust, and all turn to dust again.”

Ecclesiastes 3: 19;20

What is man without the beasts?
If all the beasts were gone,
man would die from great loneliness of spirit.
For whatever happens to the beasts, soon happens to man,
All things are connected.

Chief Seattle (Duwamish tribe)



Badgers

REFERENCE GUIDE TO WILDLIFE OF THE SANDIA AND MANZANO MOUNTAINS

BADGERS

Yes, badgers have been seen in the East Mountains. They are nocturnal by nature and hunt for food at night. Therefore, people don't often encounter a badger. So, it is a special treat to encounter one of these rare creatures.

PHYSICAL APPEARANCE

Badgers are built like tanks. They appear larger than they are, weighing only 12 to 25 pounds. They have a broad and triangular shaped head with a prominent white stripe starting at the nose continuing to the middle of the shoulder blades. The ears are wide and short. The face is black with white markings near the bottom of the eyes. They have a stout low-slung body, approximately 30 inches long ending with a 5 inch long tail. Their fur is a very thick, coarse mixture of white and black. The short stout legs end with five toes with very long, strong claws for the digging that comprises most of their hunting activity.

SIGN AND SOUNDS

Badgers dig large burrows that exhibit freshly dug dirt mounds around the entrance. They are very elusive creatures. It's more likely you will hear them digging and see dirt flying than ever see one.



HABITAT

They prefer open fields with loose sandy soil and live from high mountains to low desert. They will defend their dens with ferocity.

FEEDING HABITS

Badgers are carnivores (meat-eaters) and prey on mice, rats, lizards, snakes, worms, insects, ground nesting birds and their eggs and young rabbits. They also eat honeycombs, fruit, berries and seeds. Badgers are skilled predators with a keen sense of smell, sight and hearing. They will also eat carrion.

SHELTER

Badgers live in large underground burrows that they dig themselves. In winter, they go into a semi-hibernation or torpor and sleep part of the winter away.

MATING

Badgers have a complex social organization. After mating, with the resulting litter of between one and five cubs, the male moves to another part of the burrow and the growing family continues to share the burrow.

BIRTH TO MATURITY

Badger cubs are born in March or April. They are blind at birth and covered with a fine coat of fur. There are still things to learn about the badger and scientific studies are in progress. They are known to live at least 13 years in captivity.

SAFETY

Except for a rare chicken being taken by a badger, the badger has no negative effect on man. The badger is extremely beneficial; predated ground squirrels, rats, mice, and insects.

1. Do not approach a badger, they can move quickly and be very ferocious, and have sharp teeth and claws.
2. Keep your dogs away from a badger hole. Badgers can maul a dog while defending their burrow.
3. If you have horses, be aware of badger holes and avoid them.

There are many stories of badger/ coyote sightings. On her ranch, one summer, my mother enjoyed watching a badger and young coyote on many occasions playing tug of war with an object. She drove up one day to see a man with a rifle in hand and young son nearby. He had killed the badger to show his son. She never had the privilege of seeing this wonderful sight again.

Coyotes benefit from badgers; they will wait patiently as the badger digs for prey and when flushed, catch the prey as it is escaping the badger.



Bats

BATS

Bats (*Myotis lucifugus*) are the least understood mammal and also one of the most beneficial to our environment. Bats don't always get the credit they deserve. They pollinate and disperse the seeds of many of our fruits and rid our environment of an incredible number of destructive insects. The word "bat" comes from the old Norse word blaka, to flutter or "the flutterer". In China a bat is called "pien fu" and is considered a carrier of good fortune and long life. When 5 bats are seen together, it means health and peace, love and virtue, natural death, old age and richness.

There are close to 1000 species of bats in the world and they make up 1/4 of the total mammal species. There are 25 species of bats in New Mexico. Ted Turner's ranch's Nogal Canyon north of Truth or Consequences has the greatest diversity of bats in the entire United States.

Listed are the common names of bats found in the East Mountain area.

- Little Brown Myotis
- Southwestern Myotis
- Fringed Myotis
- Long-legged Myotis
- Western Small-footed Myotis
- Silver-haired Bat
- Big brown Bat
- Hoary Bat (considered very beautiful)
- Townsend's Long-eared Bat
- Pallid Bat
- Mexican Free-tailed Bat

PHYSICAL APPEARANCE

The Little Brown Myotis is one species found in the Sandias. It is 3 1/2 inches long with a tail that is 1 1/2 inch and forearms/wings that are also 1 1/2 inches. It has a hairy face, and the hair is typically long and soft. Both sexes are colored similarly, dull brown above with lighter colored fur on the underside. There is little seasonal change in color. This bat's voice is a fine high-pitched squeak and is inaudible to many ears. It weighs about the same as a nickel (1/4 -1/8 ounce).

HABITAT

Bats are seen over water, near clearings, in buildings; sleeping or hibernating in caves and mine shafts. Some bats find shelter in deep crevices in trees, in shrubs or fallen trees. Bats have an amazing homing instinct and can return to their nesting site from over 160 miles.

HUNTING AND FEEDING HABITS

Bats will eat 1/4 to 1/2 of their body weight in insects each night and have been known to eat 600 insects in one hour. Insect-eating bats find their food with sonar. They send out high-frequency sounds and then intercept the echo to find their prey. It takes

seconds for a bat to detect and scoop up its prey in its mouth, the cupped membrane of the tail or the wing skin.

One species, the endangered gray bat will eat 3,000 bugs a night. A colony of Mexican free-tailed bats, a species most likely found in the Sandias, can eat 250,000 pounds of bugs between dusk and dawn.

Only seventy percent of all bats species eat insects. Twenty-eight percent of the bat population eats fruit, nectar or pollen. Two percent eat small animals, fish or blood.

MATING

Bats mate in the fall; however, a plug, which prevents entry of sperm until spring, delays true fertilization. The young weigh 1 1/2 grams and nurse for 3 weeks. Typically there is just one young per litter. Males breed at 14 months and females at 10 months. Young bats fly at 3 weeks at the end of their nursing cycle. Some bats have been known to live as long as 23 years.

PREDATORS

The only natural predators on bats are hawks and snakes.

The biggest problem for bats is they need a better public relations firm! There are many myths about bats that tend to demonize them and give them a bad reputation. BearWatch would like to set the record straight for this beneficial animal.

MYTHS

1. Bats do not get caught in your hair. A bat's sonar enables them to find prey; that sonar detects people as well, which the bat does not consider prey.
2. Bats do not suck blood. There are only 3 species of vampire bats, all found in Latin America. They serrate and lick the blood.
3. Bats are not blind. They use echolocation to navigate at night. They send out high-pitched sounds, which make the air vibrate, and then they listen for the echo to bounce back to them, indicating something is in their way. This is how they find their food.
4. Bats are not likely to give you rabies. Statistically a person is more likely to get rabies from a dog. They can have rabies, but they do not carry this disease without first contracting it themselves. Be careful and avoid picking up an ill or dead bat. If a bat bites you, keep it if possible, for testing, wash the wound thoroughly and seek medical attention.

Besides being beneficial to man by eating insects, bats have other benefits. Their guano is used as fertilizer (mainly by third world countries). Almost 1/3 of the world's supply of black and white pepper is fertilized by bats guano.

Bats are also used in medical research. Studies of bat sonar have helped the blind. Hibernation studies help in space research and surgery techniques. Bats have been

used, too, in vaccine development. They can also be indicators of toxic substances in the environment.

PROBLEMS AND SOLUTIONS

Hopefully, if you have bats, you will welcome these fascinating creatures into your habitat. However, if bats have gotten into your home or are nesting in your attic, etc. you can take the following steps.

DO YOU HAVE BATS IN THE ATTIC?

The following solutions should be done in the fall or winter if at all possible. If they are attempted in the summer months, you may unintentionally destroy the young who can't fly yet and as a result, a bad odor may be created which will be unpleasant to live with or clean up.

1. Close off all accesses except one exit. Be aware that bats can access a structure through cracks as narrow as an inch wide.

Do at least one of the following:
2. Put a bright light into the attic. Hang/tape a mechanic's light to a 2X4 and slide it into the area where the bats are. (Make sure you do this in a way so that the light does not overheat any flammable material like attic rafters or insulation or the 2X4).
3. Spray cat or dog repellents while bats are out hunting at night. Do not spray on the roosting bats or when there are still young bats in the roost area.
4. Hang mothballs in a mesh bag or tied sock in the attic at a rate of 5 pounds per 2000 cubic feet of area. (Remember mothballs are poisonous to children and pets and should be used carefully).
5. Attach bird netting to the top and side of the exit opening. Leave the bottom open for the bats to escape. The bats should be able to drop out of the roost but unable to get back inside. Leave it up 2 to 3 days to insure all the bats are gone.
6. Once you are certain that all bats have left, seal the remaining opening.
7. Use of poison is against the law without a permit. All bat species are protected.
8. To clean an attic after bats have left, wear a mask and rubber gloves. Be sure to bathe and wash clothes afterward. You can contract histoplasmosis, a respiratory disease, from dust and guano.

BAT IN THE HOUSE

- Close all doors and windows except one, in the room. Eventually the bat will go on its way.
- If your bat problem persists, for more information, advice or help, please call Talking Talons and ask for their bat expert Daniel Abrams at 281-1133.

A way you can help protect bats is to not wander into or explore caves. Millions of bats have been killed, unintentionally, this way. Humans entering a cave where bats hibernate can cause them to awaken startled and frightened and as a result, they can waste 10 to 30 days of stored fat reserve. If this happens during summer when females are nursing their young, which are not yet able to fly, the young may be dropped or

abandoned to die. Just shining a flashlight into a cave can cause bats to fly and again lose that critical fat reserve.

Have we convinced you to be a bat lover? If not, there may be one final reason to ensure you are. Remember when it was mentioned that bats are responsible for the pollination of many fruits? It just so happens that the century plant depends on the bat for pollination. And from the century plant comes tequila! So the next time you sip a margarita, raise your glass and propose a toast...to the BAT!

Also, for your information, currently about 16 species of bats in the Sandias are being acoustically monitored, using an ultra sonic system. The bats' calls are recorded and archived. Other current projects on bats are occurring on South Mountain and in the Ortiz Mountains.

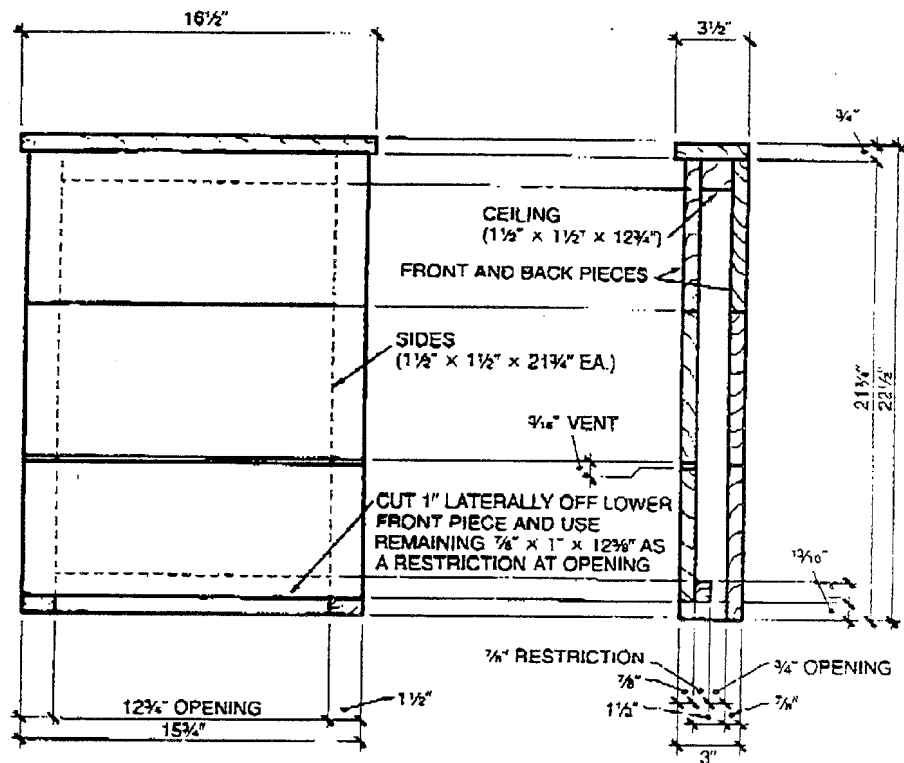
There is a great deal of concern by wildlife experts that some bat species are losing numbers too quickly. The bat is very important to humans because of its incredible skill at ridding us of insects and its ability to pollinate.

Beverly DeGruyter, wildlife biologist for the Cibola National Forest, has given BearWatch plans on how to build a bat house. She encourages mountain residents to help this wonderful, beneficial creature and in the end, it will help us.

MATERIALS NEEDED:

- One 8' piece of 1" x 8" lumber (front and back pieces, and entry restriction)
- One 5' piece of 2" x 2" lumber (sides and ceiling)
- One 16-1/2" piece of 1" x 4" lumber (roof)
- One piece 15-1/2" x 23" fiberglass window screening*

*CAUTION: Do NOT use metal window screening



Beginner's Bat House

For years, people all over the world have constructed and installed nesting boxes for birds. In some cases, these artificial habitats have played a vital role in recovery of bird populations. Using this success as a model, Bat Conservation International (BCI) began popularizing bat houses in the early 1980s. Since then, thousands have been erected—some enormously successful, some not.

Recently, BCI evaluated the successes and failures of bat houses across the United States. Of the 276 bat houses included in the survey, 52 percent attracted bats. BCI also discovered that larger boxes with longer and taller roosting chambers were more successful than smaller houses with short roosting chambers. The most successful bat box design was tall and wide, with only one roosting chamber.

Admittedly, most of the information collected on these bat houses came from the mid-western and

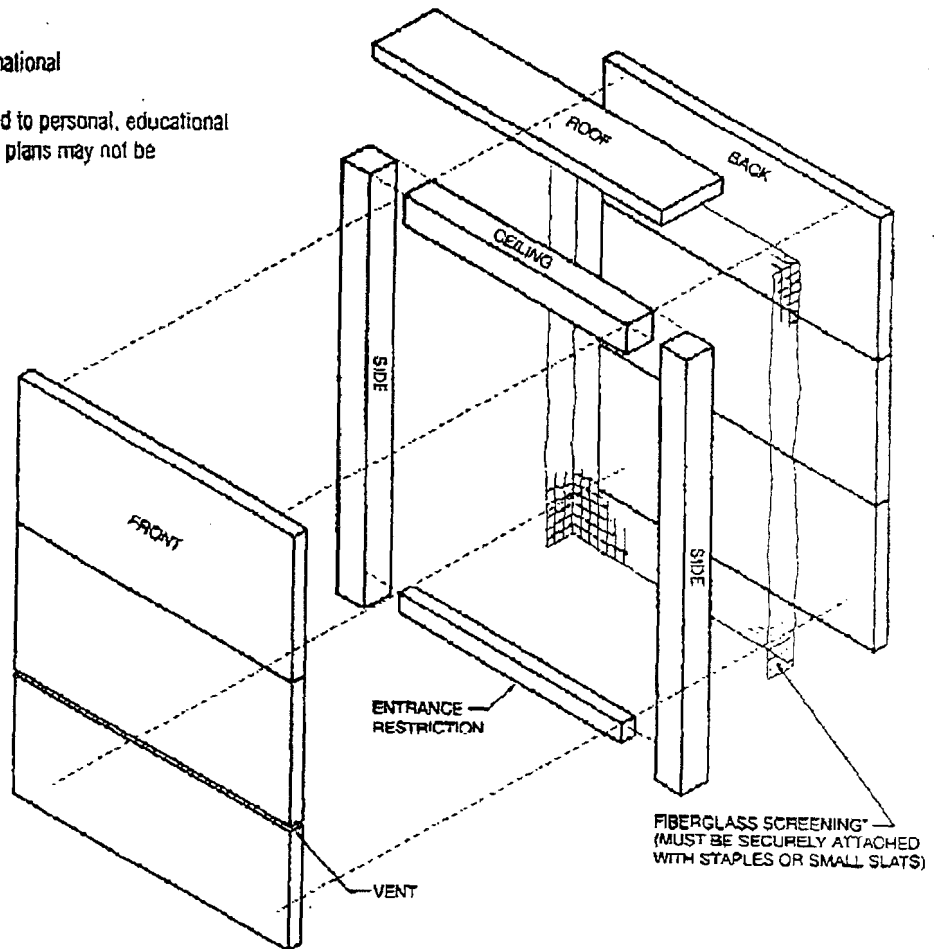
eastern United States. Because of Arizona's unique climate, additional factors such as heat and sun intensity must be taken into consideration. The new and improved bat house plans developed by BCI address these problems by adding insulation and additional roosting chambers.

Correct placement of the bat house is critically important to its success, especially in Arizona. The house should be placed in a very shady area, and high above the ground (20 to 30 feet for best results) to discourage predators. It could be placed on the north-facing wall of a house, carport or barn; high under the eaves of a house or building; inside a carport, patio, or barn; or in a tree that provides shade for most of the day. If exposure to direct sunlight is unavoidable, the early morning sun would be more tolerable than the intense afternoon sun.

The most frequent inhabitants of southwestern bat houses are Mexican free-tailed bats. However,

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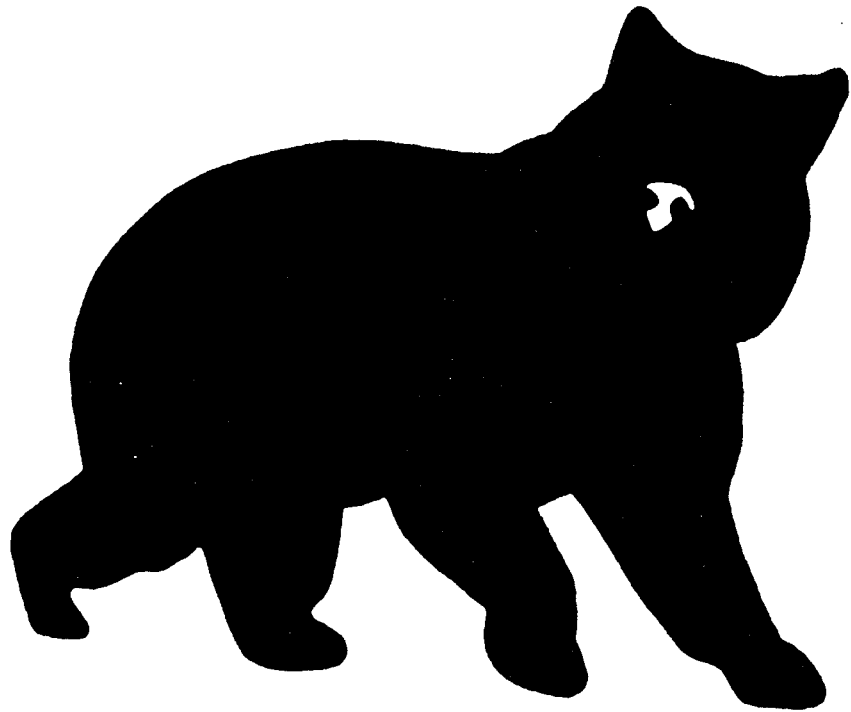


pallid bats immediately occupied a bat box in Prescott, Arizona after being excluded from their nearby attic roost. This quick possession was contrary to the long-held belief that it usually takes at least two years for a colony of bats to move in. The BCI survey also demonstrated that if a bat house is not occupied within the first two years, it will probably never be occupied. So, if you install a bat house and it does not attract a colony of bats within two years, move it!

Should you decide to install a bat house, monitoring its success is extremely important, but disturbing the colony could cause roost abandonment. One very effective way to monitor the house without disturbing the occupants is to observe it at dusk for emerging bats. If you suspect that a maternity colony

is roosting in the bat house, quietly and quickly direct a red-filtered light into the box after dark and look for babies left behind while the female feeds. This should be done only once or twice during the summer; discontinue monitoring if the young become agitated. The house should also be monitored once or twice during the winter, as bats have been known to hibernate in bat houses in Texas, Kentucky, and New York. The Department is very interested in any data that you collect from your bat house. To report your success or failure, please write to: Nongame Branch, Arizona Game and Fish Department, 2221 W. Greenway Road, Phoenix, Arizona 85023.

For more information regarding bat houses, order a copy of "The Bat House Builder's Handbook" from BCI, at P.O. Box 162603, Austin, Texas 78716. 



Bear

BLACK BEAR

The bear that has inhabited New Mexico and the Sandia and Manzano mountains for the past tens of thousands of years is scientifically named *Ursus Americanus* (American Bear), but is commonly known as the black bear. When I started my research on this animal, there was much more information available on the bear than any other North American animal. It has captured the imagination of man and rightfully so.

PHYSICAL APPEARANCE

Compared to other bear species, the black bear is considered medium-size; males range from 200-500 lbs. and females 150-300 lbs. They come in a variety of colors ranging from black, brown, cinnamon, red and blond. Patches of white are sometimes found on their chests. They may have a tan or black muzzle. Black bears measure about 3 feet high when on all 4's or about 5 feet tall when standing upright. Black bears have strong muscular necks, and a heavy body supported by short powerful legs. The highest point of a black bear is the middle of the back. There is no prominent shoulder hump as there is on a grizzly bear. You can recognize a young bear from an older bear by the appearance of the large ears in comparison with its smaller head.

SIGNS AND SOUNDS

Black bear tracks are very distinctive--the hind footprint resembles that of a human. All bears have 5 toes, with the front foot short and about 4-5 inches wide. The hind foot is long and narrow, measuring about 7 inches. Claw marks may or may not be visible. The claws are non-retractile, meaning they can be seen at all times. The black bears' tightly curved claws are ideal for tree climbing and digging for insects, tubers, and making dens. They are also strong swimmers. Like a human, a bear's feet are made for a browsing lifestyle, rather than one of pursuit. However, while bears may appear awkward and clumsy, they are actually very agile. They can run twice as fast as man (up to 25 M.P.H.) and have been known to outrun a racehorse for a short distance.



Bears use trails just as people do, since it's easier to travel on a trail than through underbrush. Be aware of tracks, droppings and other bear signs. Claw marks on trees, rotten logs ripped apart and hair on tree bark from rubbing will allow you to determine better the presence of bears. It's easy to recognize a black bear's sizable droppings of plant leaves, partly digested berries, apples, assorted seeds or animal hair.

Adult bears make a variety of sounds. The most common is woofing and jaw-popping. Young bears whimper or bawl. Black bears use the same vocalization and body language toward people that they do toward each other. Knowing these sounds can help people react to any bear they may encounter. The sound most heard by people is a loud blowing, which means a black bear is nervous or afraid. Campers or hikers hear this when a bear retreats or bluffs. Three types of bluffs are common, and all include sudden, explosive blowing. The most common is blowing with clacking teeth---the defensive display of a scared bear. Another bluff is blowing with a short lunge and slapping the ground or an object---an uneasy black bear's way of saying, "move back". A more emphatic version is blowing and bluff-charging. Any of these blustery displays can occur when a black bear feels crowded but is reluctant to leave food or cubs.

However, displays usually end with bears turning and retreating, perhaps to repeat the performance. Research has shown that these displays are not normally preludes to attack and aggressive behavior by people [yelling, waving arms, making short rushes, throwing things to scare the bear] is almost certain to put a bluffing bear in retreat. A less common sound is the resonant voice of a bear. This is used to express intense emotions (fear, pain, and pleasure) including strong threats. Black bears with ready escape routes seldom use this threat toward people.

Of all the senses, it is the sense of smell that is the sharpest and that the bear relies upon the most. In fact, with proper conditions, a bear can smell a human approaching from up to one mile away. While a bear's sense of sound and sight are not its' strongest, these senses still exceed mans capabilities. When a human sees a bear and the bear stands on its two hind feet, it is most probably not trying to see better, but to smell what is going on around it.

Black bears are considered the most intelligent North American mammal after man. They are more curious than a chimpanzee and have very good memories. A bear that has learned that ice chests contain food may curiously approach a car, peek through the window, see an ice chest and break into the car. One account tells of a female black bear learning to use rocks to trigger traps. She would wait in a nearby tree for the traps to be set, coming down when humans had left to trigger the traps and eat the bait. Look at your beloved dog that you find so intelligent and be aware that he would lose paws down in an I.Q. test with a bear.

HABITAT

Black bears have long been viewed as forest-dwelling animals. However, an unbroken expanse of forest doesn't provide enough food for black bears. They need berry patches and stream bottoms to satisfy their appetite for plants and insects.

You can find black bears in virtually all forested areas of New Mexico. Females usually maintain a home range of five to seven square miles. Males on an average occupy an area of 25 square miles, although they can extend their territories to as much as 50 square miles if habitat quality deteriorates. Under ordinary conditions black bears display mutual avoidance of each other rather than territorial aggression. A sub adult female's territory will overlap her mother's range. Sub-adult males sometimes disperse over great distances, which help maintain the viability of the gene pool by reducing the incidence of inbreeding. When habitat becomes limited or degraded, sub-adult males may encroach on the territory of sub-adult females and force them into marginal areas near human population. This is precisely what happened in 1989 when 23 bears came into Albuquerque. All were sub-adult females driven from their range during a period of drought.

HUNTING AND FEEDING HABITS

Bears are omnivorous, which means they will eat just about anything around. Plants compose the overwhelming majority of their diet. Their diet varies according to seasonal availability of foods. In the spring, the diet consists mostly of young grasses and forbs, young succulent shoots, roots, insects and carrion and cambium, the nutrient-rich part of a tree just under the bark. In summer, young grasses, forbs,

dandelions, sweet clovers, a variety of mushrooms, watercress, insects, chokecherry, wild raspberries, wild strawberries and wild plum and apples are primary sources of nourishment. Like humans, bears cannot convert cellulose into an absorbable form and so the mature plants and grasses of summer cannot be properly digested. Rocks and stumps may be overturned in search of grubs, and yellow jacket nests may be invaded. Another favorite in the Sandias is the calorically high "bear corn" or "squaw root," the yellow-red root that grows abundantly underneath oak trees. In late August, black bear are trying to fatten up for winter hibernation. During this period, they may actively feed for up to 20 hours a day and may ingest 20,000 calories daily. Acorns makes up the bulk of a bear's fall diet with additional pinon nuts, juniper berries, kinnikinnick (bear-berry), and prickly pear eaten to help store fat for the approaching winter. If necessary, they will feed on small rodents, maggots and anthills. True to popular belief, bears do raid beehives for the honey and the bees. They have been known to raid chicken, rabbit, and hamster coops. Males may kill and eat cubs. Such behavior may not fit our image of Pooh or Smokey, but it does maintain a balance between population and available habitat.

BEARS AND WINTER

For black bears, hibernation is more an adaptation for escaping winter food scarcity than an adaptation for escaping winter cold. Black bears do not officially hibernate but enter a state of 'torpor', which is a modified form of hibernation. Torpor in New Mexico normally occurs between mid October through the end of March and sometime later. Pregnant sows enter the dens first, with sow with cubs next, followed by younger bears and the last into the dens are adult males. Males usually appear first in the spring, followed by female's without cubs and finally female's with cubs. Bears may move from den to den in winter months so it is possible to see them when they are supposed to be in torpor. The black bear's metabolic and digestive processes undergo an amazing transformation during its stay in the den. Rather than excreting, the bear has evolved the capacity to reabsorb its waste products and convert them into useful proteins and other nutrients. To survive long winters without eating, drinking, exercising, or passing wastes, hibernating bears cut their metabolic rates in half. Sleeping heart rates drop from a summer rate between 60 and 90 beats per minute to a hibernating rate between 8 and 40 beats per minute. Rectal temperature drops only slightly, though, from 99-102 degree F in summer to 88-98 degree F during hibernation. Bears can maintain this high body temperature despite their lower metabolism in winter because they develop highly insulating fur and reduce blood supplies to their limbs. Only the head and torso are maintained at higher temperatures. Maintaining the brain at a high temperature enables bears to maintain brain function for tending newborn cubs and responding to danger. Most parasites of bears are adapted to their host's hibernation cycle and reduce their demands in winter. Medical researchers are studying black bear hibernation to learn how bears cope with conditions that are problems for people. These findings are aiding studies of kidney disease, gallstones, obesity, anorexia nervosa and other human health problems. Researchers hope that knowledge of bear hibernation/torpor may someday even aid space travel.

SHELTER

Black bears select a surprisingly small den that has one or more openings. The most important aspect of a den to a black bear is that it is in a protected area. The den is

small, so that the bear's own body heat will warm the space. Den openings are often so narrow that an adult human would find it difficult to squeeze through them. In New Mexico, dens are frequently located under outcroppings of large rocks or under tree roots. It was believed dens were chosen for their thermal properties, but most dens are nearly as cold as the surrounding countryside. Bears gather leaves, grass, and twigs to make insulating beds on which to curl up, leaving only their well-furred backs and sides exposed to the cold. They sleep alone with the exception of mothers with cubs. Most bears use a different den each year. In bad years, a small percentage of black bears die in dens. Unfortunately, some young underweight bears will die while in torpor in drought years. Since urination and defecation don't occur during hibernation, odor is not produced. This significantly decreases a mother bear and her cub's chances of being found by predators which include mountain lions, bobcats, coyotes and other black bears that sometimes prey upon the cubs.

MATING

The black bear is not a threatened or endangered species. However, it is vulnerable to extreme population fluctuations because of its mating habits and reproductive cycle. In New Mexico, breeding doesn't begin until a sow is almost six years of age, and mating occurs only once every two years. Consequently, BearWatch is concerned that wildlife management policies must take care to protect the population of our black bears. In New Mexico, black bears breed between mid-May and July. Gestation takes seven to eight months. Delayed implantation of the eggs enables the female to breed in the summer and give birth in the winter. This delayed implantation has been termed "an effective means of birth control". If it has been a good feeding season and the sow has plenty of fat reserves going into the winter season, then all the fertilized ovum will implant, meaning a large litter (up to 3); if it has been an average feeding season, maybe just one or two ovum will implant, resulting in 1-2 cubs. And if it has been a sparse feeding season, the ovum will not implant at all, so that the female bear can use all her fat reserves to keep herself alive. Therefore, even though a bear mates in June, it could be as late as November before the fertilized eggs are implanted. Cubs will stay with their mother 1-2 years. Therefore the female mates about every 2 years, shortly after "evicting" the cubs.

BIRTH TO MATURITY

Cubs are born in January after a gestation period of approximately 7 months. Although mating occurs in June, fetal development takes place mainly in the last 2 months of pregnancy after the fertilized egg implants in the uterus in November. At birth, the cubs are about the size of a mouse and weigh just 6 to 8 ounces. The newborn bears are blind and helpless with a light covering of fur and purr while they nurse. The mother eats the birth membranes, licks the cubs, and warms them against her thinly furred belly. She moves in response to the cubs' cries and comfort sounds. She makes it easy for them to nurse by shifting her weight so as not to lie too heavily on them. Wakeful, nursing mothers often lose a third or more of their body weight over winter, while non-nursing bears lose only 15 to 25 percent. Mother bears provide excellent den care, and infant mortalities are rare. Nurtured with their mother's rich milk, cubs grow from 6 to 8 ounces at birth to an average of 6 to 7 pounds by the time they emerge from the den in mid May. Bears are nurturing mothers, always responding to their cub's cry. If need be, a mother will carry a cub in her mouth to a new location or will gently grasp a

crying cub in her mouth to help it down from a tree. Cubs taste what their mothers eat during the months after emerging from dens, but they do not begin eating solid food until their chewing teeth erupt later in spring. They continue to suckle until they go into torpor in the fall. In fall, mothers do most of the den construction, but the cubs help rake leaves and twigs for bedding. They sleep snuggled together for warmth and protection with mother bear nearest the entrance.

New Mexico Department of Game and Fish 'Operation Cub Den' showed that orphaned cubs instinctively made dens and could survive over winter alone if they were in good condition. In the summer of 2001, NMG&F delivered 25 undernourished orphaned cubs to Dr. Ramsay and her staff at the Wildlife Center. They did a wonderful job of fattening the cubs for their fall release. Some of the cubs weighed over 100 pounds. In the wild, they would have weighed half that. NMG&F 'Operation Cub Den' was a success with only 3 telemetry-followed cubs out of 25 lost by the next summer.

The following spring, mothers continue to lead and protect their cubs until the cubs are about 17 months old and the mother becomes ready to mate again. Then she becomes intolerant of her yearlings and threatens them away. Littermates may stay together through the second summer and even den together the following fall. A sow will recognize her cubs for several years, possibly indefinitely, allowing them to remain in parts of her territory that she then avoids. She ejects trespassing bears that could compete with her offspring and herself. Female offspring use ever-larger portions of their mother's territory until they reach maturity. Meanwhile, the mother shifts her territory to include new adjacent areas if such areas are available, or tolerates overlap with her daughters if other areas are not available. Young males voluntarily leave their mother's territories before reaching maturity, traveling up to 100 miles or more before settling down and establishing mating ranges.

SOCIAL ORGANIZATION

Adult black bears usually travel alone as food sources are usually too scattered for them to feed together. Males have larger ranges than females because they must find mates and also food. Male ranges cover 7 to 15 female territories. A male's range will overlap other male's territories because their ranges are too large to defend. A male will compete for mates and will mate with as many females as he can. Old males usually have many scars on their heads, shoulders and forelegs from fights over females. Old females carry few scars because they have fewer occasions to fight. But, they will occasionally fight to defend their territories, especially where cubs are involved, and have even killed trespassing, predating bears. Young bears behave as if their greatest fear is a strange, large bear, and for a reason. Cubs and young bears have occasionally been killed and eaten by other adult males and female bears. At garbage dumps that aren't bear-proof, bears gather and form orderly hierarchies with some bears becoming partners that play and travel together for days at a time. Other bears fight over the food, especially in years of food shortage.

BLACK MARKET

Black bear gall bladders can fetch as much as \$30,000 on the Asian market as can bear-paw soup, which is considered an aphrodisiac and can cost \$800 a bowl. The Asian Black Bear is near extinction and now our beloved black bear has become the

poacher's and traders latest target. If you are aware of any poaching in your area, call BearWatch at 281-9282 and the N. M. Game and Fish Dept. at 841-8881/476-8000 or Operation Game Thief at 1-800-432-4263.

... IF YOU MEET A BLACK BEAR

There are no definite rules about what to do if you meet a bear. In almost all cases, the bear will detect you first and will leave the area. Bear attacks are rare compared to the number of close encounters. However, if you do meet a bear before it has had time to leave an area, here are some suggestions. REMEMBER. Every situation is different with respect to the bear, the terrain, the people and their activity.

STAY CALM. DON'T RUN. If you see a bear and it hasn't seen you, calmly leave the area. As you move away, talk aloud to let the bear discover your presence.

If the bear sees you and reacts, **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. Don't run or make any sudden movements. Running is likely to prompt the bear to give chase and you can't outrun 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—a second cub may also 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 isn't 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. Unlike domestic dogs, which are often territorial and aggressive toward strangers, black bears typically behave as the subordinate toward people when escape is possible.

SANDIA MOUNTAIN BEARWATCH'S TIPS FOR LIVING WITH BEARS

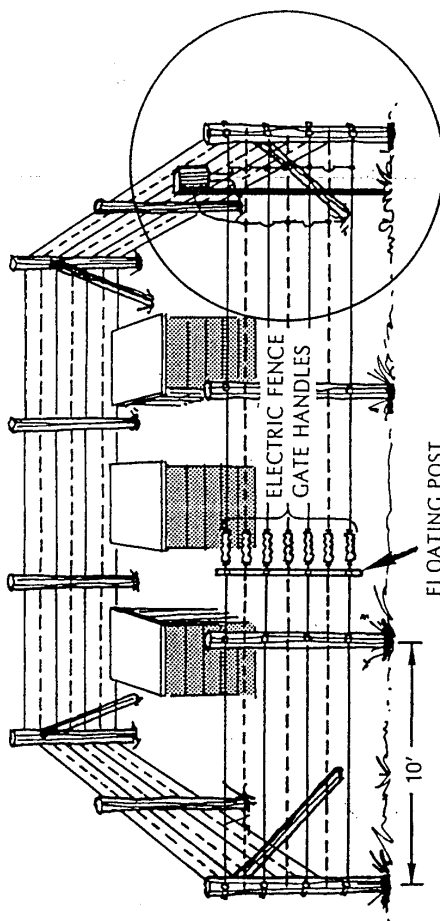
- DON'T FEED A BEAR – EVER.....A FED BEAR IS A DEAD BEAR!
- Keep trash in a clean, closed container, stored in a sturdy metal shed or closed garage or bear-proof garbage can. If necessary, double bag garbage. Put out garbage only on morning of pickup. Hang a sock with mothballs on/near door. Bears dislike the smell of mothballs and it also helps disguise the smell of garbage.
- Don't feed pets outdoors or leave pet dishes or store pet food outdoors. Don't put pet dishes near back door or store pet food near door leading outside.
- Hang seed feeders from wires between trees high enough off the ground that a bear can't reach it. Hang a seed tray underneath to catch excess seeds or stop feeding for several days until birds eat extra fallen seed. Bring in hummingbird feeders at night or hang from a high wire between trees. Feed suet and peanut butter only in winter when bears are in hibernation. Store birdseed in a closed container in a sturdy shed or the garage.
- Keep barbeque grills stored indoors.
- Keep kitchen windows and doors closed on summer nights. In drought years, keep kitchen clean and put all food away and out of sight of windows.
- For small livestock and chickens, a shed or fence will not stop a hungry bear. You will need a very sturdy metal shed and/or a 5-strand electric fence using an approved fence charger with alternating current. Your local hardware store sells transformers for electric fences and can advise you on installation. Be sure to check with the county inspector for guidelines and limitations. This is an inexpensive alternative to lost pets/livestock.
- Be responsible. Put an electric fence around beehives. Instructions on next page.
- Don't plant fruit trees or berry bushes near your home. If you have older trees that produce fruit, you may have wild visitors at night. Be compassionate and know that this comes with living near or in the mountains. In drought years, to protect your trees, remove fruit before it ripens to stop damage to trees from bears climbing and breaking branches. Put an electric fence around your trees. Remove fruit from under trees and dispose or be compassionate and leave for our wild hungry bruins. BearWatch believes that bears trapped for apples will eventually destroy our bear population if residents continue to call for trapping. Over 90 East Mountain bears have been trapped/tagged in the past two years, 2001-2002. Remember, three tags and the bear can be destroyed!
- Don't add melon rind or fruit to compost pile except in winter.

- Don't leave food, groceries, pet food or birdseed in your car overnight. Bears have a keen sense of smell and will break into a car and do a lot of damage.
- Don't feed other wildlife. A bear is an opportunistic feeder and will go wherever food is available.
- If a bear is drinking from your swimming pool or hot tub, put water out as far from your house as possible. This will stop some expensive damage from happening.
- Keep all poisons inside your house. Many bears (including sows with cubs) died in 2001 from ingesting poisons from sheds. Also, many bears die from ingesting garbage bags.
- Keep woodpiles and junk away from the house. Rodents live in woodpiles and junked cars, etc. and bears eat rodents.
- If you have followed all of the above suggestions and still have a bear problem, try to eliminate any food source or reason why a bear would be near your home.
- Please understand that a trapped bear does not transplant well. There are no pristine, unpopulated areas left in New Mexico to relocate these animals to. A very large percentage of deaths occur from being relocated and a bear can be destroyed after three trappings.

Call Sandia Mountain BearWatch's Jan Hayes for advice at 281-9292 or Jeff Davis at 286-6185.

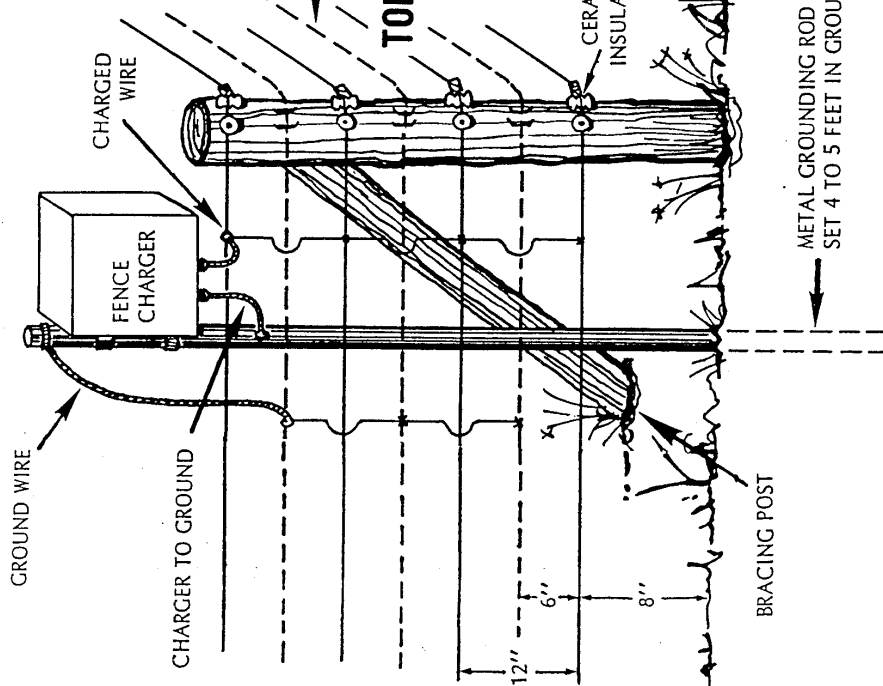
ELECTRIC FENCE FOR PREVENTION OF BEAR DAMAGE TO APIARIES

PROPERLY FENCED APIARY

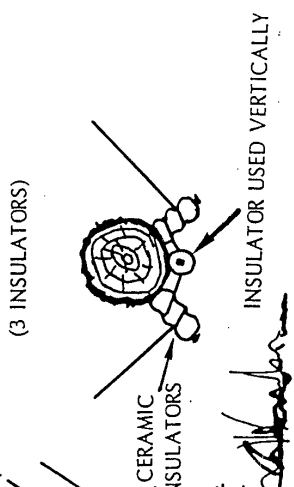


SEE ENLARGED VIEW

ENLARGED VIEW OF CORNER CONSTRUCTION



TOP VIEW OF CORNER POST



MATERIAL LIST

TO ENCLOSE APPROXIMATELY 40 COLONIES

24 8' FENCE POSTS	\$ 30
50 LBS. 12 GA. GALVANIZED WIRE	22
125 CERAMIC INSULATORS	12
7 GATE HANDLES	7
1 ELECTRIC FENCE CHARGER	22
1 6 VOLT STORAGE BATTERY	30
2 LBS. FENCE STAPLES	
	\$ 124

Jan Hayes
P. O. Box 591
Tijeras NM 87059

505-281-9282
505-286-3164 FAX
jan@janhayes.com



"... ensuring a stable bear population"

Dear East Mountain Neighbors,

Our Sandia and Manzano bears are in dire trouble. The reason is three-pronged: a prolonged drought, over-hunting and East Mountain residents calling NMG&F to trap a bear.

None of us have the power to change our climate, and most of us don't bear hunt, but the 90+ residents in 2001-2002 that have asked NMG&F to trap have just as surely destroyed bears as the two previous occurrences.

You may ask how? Those of you who have requested trapping don't want the bears killed; you just want them off your property. Unfortunately, a trapped bear is tagged and a tagged bear is one step closer to being destroyed. How many more times do you think NMG&F officers will tag a bear before destroying it? Trapping bears for apples is extremely time consuming for the NMG&F. In 2001 some \$30,000 of a slim department budget was spent trapping and relocating east mountain bears. And most important, it doesn't work. Most of these bears returned to the same or other trees that still had apples. In drought years there is scant to non-existent acorns for fall forage. Apples can be the only food left for a bear facing long winter hibernation. What other alternative does this animal have?

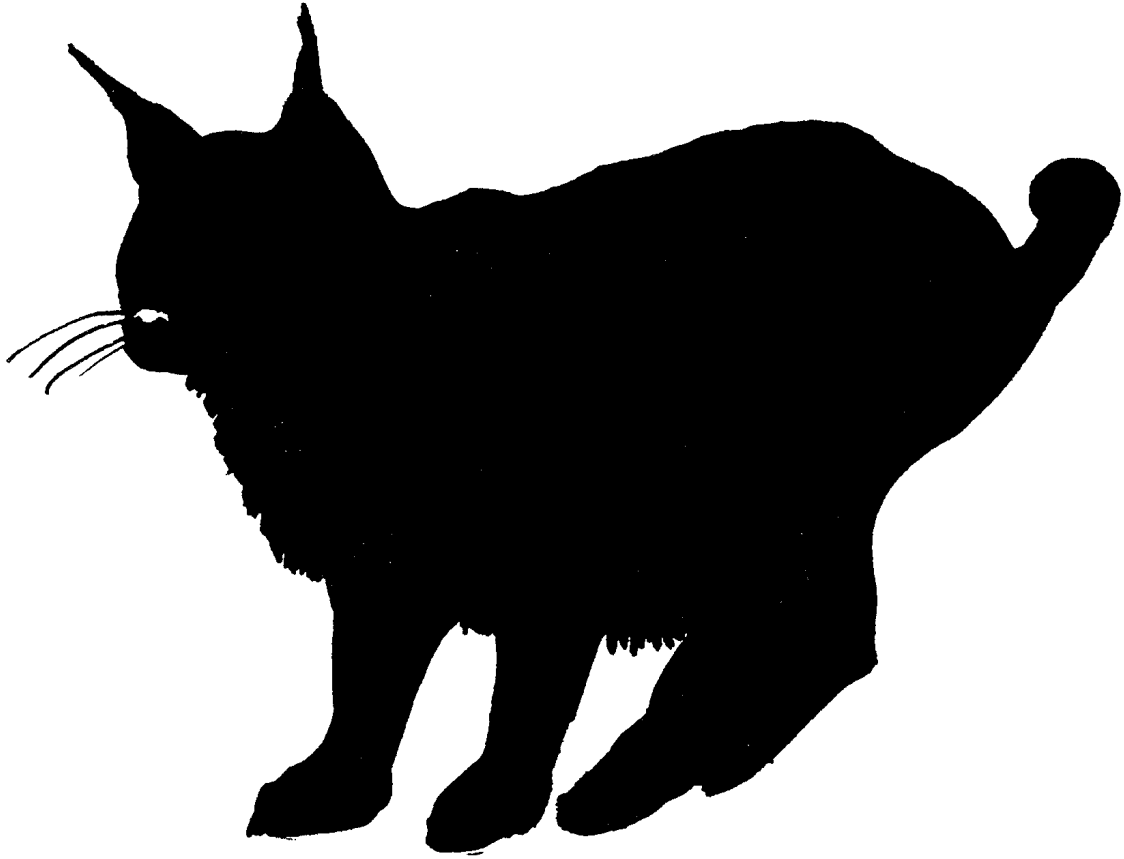
I talked to NMG&F's Chris Chadwick and Mike Johnson last year. They said that roughly 90% of the bears they were trapping came from resident's requests that wanted the bear removed from their apple tree. BearWatch and I, along with NMG&F Officers and most of the people who live here, believe that living in the mountains comes with a special responsibility; to do everything possible to not negatively impact our wildlife.

Apples in a drought year are an attractant just as is available garbage. People with apple trees are responsible for that attractant, not the bear. If you don't want to share your apples with a hungry bear, you can (1) pick and remove all apples from your trees to avoid visiting bears and broken tree limbs, (2) put up a 1 to 5 strand electric fence around your trees, (3) have patience and realize that this is a drought year and that future years will bring us more moisture so our remaining bears will chose to stay higher on the mountain. (4) Leave your unused apples on the ground for our hungry bears.

For the very first time in 19 years, I had a bear in my large, very old apple tree. I could hear branches breaking and it was also breaking my heart, I love that beautiful old tree! There was some damage but this is what comes with living with bear in our small mountain range.

Without a real effort on behalf of all mountain residents, our bear population will be non-existent in a few short years. How very sad to have a sterile mountain with no deer, bear or cougar. Please chose to save a bear. Don't call for trapping unless there is a safety issue with the bear trying to come into the house or is hanging around your home and won't leave.

Please feel free to call me at any time if you have questions. I care about my mountain neighbors and about the wildlife living here.



Bobcats

BOBCATS

There are two species of lynx in North America: the bobcat or red lynx (*Lynx rufus*) and the common lynx (*Felis lynx*). The bobcat is found throughout New Mexico and has established itself in every county in the state regardless of terrain. Colorado is in the process of re-establishing their decimated lynx population.

PHYSICAL APPEARANCE

Bobcats range in weight from 15 to 68 pounds. They are stocky and cat-like in appearance, with a short bobbed tail and sharp erect ears ending in tufts. The bobcat's coat color is tawny with indistinct black spots on its flanks ending in a lighter cream color on chest and stomach. Its coat appears grayer in the winter. The upper legs are striped with dark bars. The face has a radiating black streak onto the lighter cheek ruff. Their stubby tails and bobbing motion identify them in the wild. As a bobcat retreats, you'll notice prominent black spots, almost eye-like, on the back of its ears.

SIGNS AND SOUNDS

Bobcats will use tree trunks as scratching posts leaving low scratch marks. They will leave a cache covered scantily with twigs, leaves and dirt. Their scat resembles domestic dogs and is sometimes covered with dirt with scratch marks left nearby. Bobcat's tracks, both front and back are 2 inches long, slightly longer than wide with 4 toes with no claw marks. It uses the same trails, which are very narrow due to this cat putting each paw in front of the other. Its calls sound like a domestic cat except when it emits a piercing scream. When threatened, it produces a short cough-bark.



RANGE AND HABITAT

Bobcats are great wanderers. This cat can be found in river bottoms, high mountains, and in the desert. It can even survive in heavily populated areas. Bobcats prefer cliffs, rocky slopes and hollow logs for dens. Their territories vary with food supply, but average 4 to 15 square miles.

The bobcat is shy and seldom seen. They are solitary and active both day and night. Bobcats are expert tree climbers and swimmers. They see well in the dark because their eyes have a special light reflector behind their retina. They also have excellent hearing for locating their prey. The bobcat is a savage fighter when cornered or when taking prey. Be aware that you should not corner one, for it will defend itself vigorously.

HUNTING AND FEEDING HABITS

A bobcat's diet includes rodents, rabbits, birds, deer fawn, young raccoons, domestic poultry and some insects.

MATING

Bobcats mate in spring and usually give birth to three kittens 60 days later in April or May. Females produce normally one litter each year.

SITUATIONS AND SOLUTIONS

Bobcats have adapted to humans invading their habitat. People are often unaware of bobcat living in their presence.

Bobcats have been known to kill domestic dogs and cats. Keep all small pets indoors and watch them carefully when they are out of doors. A covered dog/cat run will protect them for longer stays out of doors.

Unprotected small livestock are also vulnerable. Put chickens in sturdy chicken coops and other small livestock in sturdy closed sheds at night or sturdy covered pens during the day/night or use electric fencing. Your local hardware store carries materials and directions for electric fencing.

Be aware that planting grass lawns draws in rabbits and mice, which draws in predators like bobcats. Bobcats avoid human contact as much as possible, and if you can share your land peacefully with a bobcat, it will help keep rodent populations down.

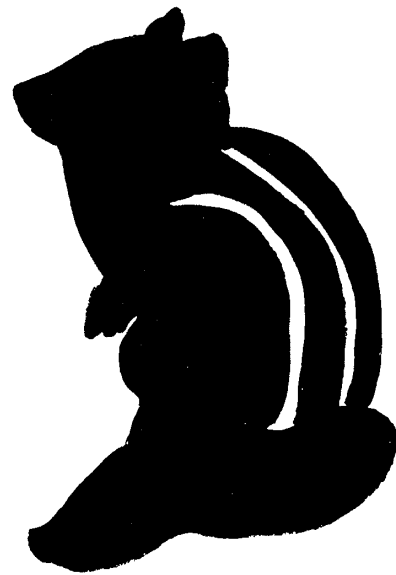
PREDATION

Bobcats depend on seclusion more than flight to stay clear of their major predators, humans. Coyotes and mountain lions also prey on bobcats.

Bobcats survived intensive predator control programs earlier in this century, when bounties were offered and poisons were used to control bobcat depredation on livestock. Their numbers continue to decrease due to hunting and habitat loss. In the U.S. and Canada in 1977-1978, more than 85,000 bobcat and 20,000 lynx were killed for their skins valued at more than \$16 million. State and federal trappers are still allowed to trap bobcats in winter months. These animals are considered fur-bearers and are protected by law. Only a licensed hunter can kill a bobcat.

Contact BearWatch at 281-9282 or the New Mexico Department of Game and Fish at 841-8881/476-8000 for further information.

Chipmunks



CHIPMUNKS

Chipmunks are the smallest members of the squirrel family. They usually live in or near forests, but some species exist above the timberline or in the semi-desert regions of the western United States where bushes dominate the landscape. They are found as far north as the Yukon and as far south as Mexico. The two species of chipmunks living in the Sandia and Manzano Mountains are the Colorado chipmunk and the Cliff chipmunk.

Chipmunks can be numerous where they occur, especially if fallen logs, logging roads, ravines, or piles of brush or rocks disturb the surface of the ground. Chipmunks wander long distances from their burrows when gathering food, and require cover of some kind to escape from predators.

PHYSICAL APPEARANCE

Chipmunks can be recognized by their small size and the dominant white and dark brown stripes on their back and face. Their coats are a variation of tan and brown coloration. They have whitish fur on their stomach and chest. They may be sometimes confused with some species of ground squirrels, which are also striped; but on these larger squirrels, the stripes are confined to the back and do not continue forward onto the face as they do on the chipmunk.

SIGNS AND SOUNDS

Chipmunks can also be identified by their calls. When surprised, a chipmunk runs quickly along the ground giving a loud, rapid series of chirps. This sudden burst of noise probably startles predators, helping the chipmunk to escape. They also frequently call with a high-pitched chirp, repeated over and over at intervals of one or two seconds. This scolding call is given when the chipmunk is watching an intruder from a safe vantage point.

HABITAT

Chipmunks are burrowing animals and construct tunnels and nests beneath the ground. The entrances of their burrows are usually well concealed beneath rocks or tangled brush. Some burrows have tunnels that branch and lead to side-tunnels and accessory chambers. Most burrows, however, consist of a single entrance leading to a single tunnel. In this chamber, the chipmunk constructs a nest using insulating material such as dried grasses, shredded leaves, or the fluffy seed heads of certain plants. Seeds are stored beneath the nest and it is in this chamber that the chipmunk spends the coldest part of the winter, curled up on top of its food supply.

FEEDING HABITS

A chipmunk spends much of its day collecting and storing seeds, which are its most important source of food. They will also eat acorns, juniper berries and some insects. Their cheeks hold the seeds while the animal is busy collecting. When the cheek pouches become full, the chipmunk deposits the seeds in its underground nest, or hides them on the surface of the ground, covering them with leaves and other litter. Chipmunks will sometimes raid a bird feeder.

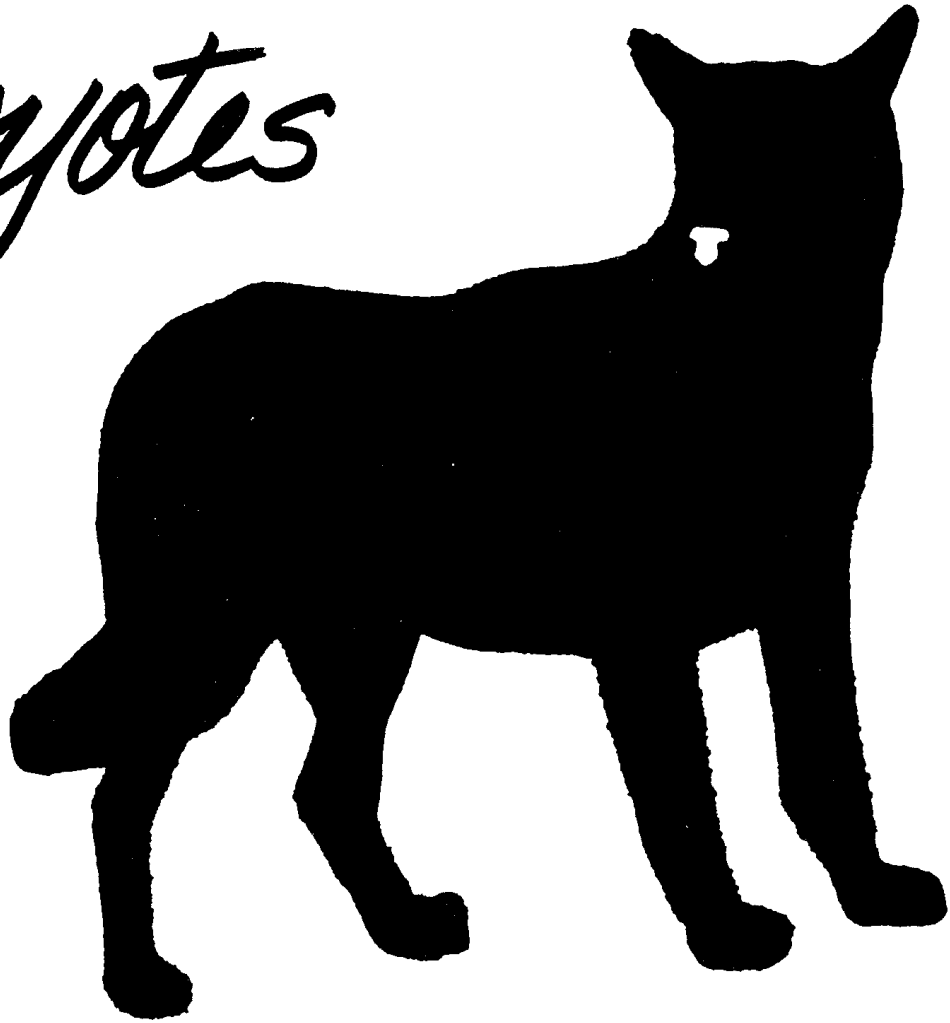


BIRTH TO MATURITY

The breeding season is April and May with a gestation period of about 30 days. The average number of young in a litter is four to six. Females alone are responsible for rearing the young. In a good year, chipmunks can produce two litters. On average, chipmunks have a short life span due to heavy predation of this species. Un-predated chipmunks can live to age seven.

The forest comes to life when a chipmunk scampers from under my feet, scurrying to the safety of an old log, and fussing at me for disturbing him. It makes me smile. ☺

Coyotes



COYOTES

The name Coyote (*Canis Latrans*), meaning "barking dog", originated from the Aztec word "Coyotl". While they are often compared to wolves, they are actually much smaller than you would think.

PHYSICAL APPEARANCE

Size varies, but the typical coyote is 4 to 4 1/2 feet in length including the tail. They are 18 to 25 inches in height at the shoulder and anywhere from 20 to 40 pounds. Coyotes can be gray, tan, brown or yellowish red with whitish fur underneath. They have a bushy tail tipped in black. They have long pointed muzzles, yellow eyes with round pupils, large pointed ears held erect and black-pigmented lips.

SIGNS AND SOUNDS

Coyote footprints are similar to a dog but are placed in a nearly straight line. A coyote can run at 25-40 mph and can jump 14 feet. Coyote scat looks much like dog scat except it normally has pointed ends and it often contains remnants of berries, seeds and hair. Scat is seen on often-used trails and vantage points where coyotes gather to watch for prey. The shrill yips, yapping barks and howls heard at dawn, dusk or during the night are the coyotes' most characteristic vocalizations. Lone barking with no howling is used in defense of a den or kill. Howling functions as communication between family members. It is used for greetings or territorial claims.



HABITAT

Coyotes are perhaps the most adaptable species alive. Their habitat is virtually anywhere, (and has expanded as white man has become more numerous) from mountains, deserts to grasslands and even urban areas (a coyote was recently spotted in New York City). However, they favor thick brush and the edges of fields near forests. Their territories vary from 300 acres to 100 square miles, depending on the availability of prey.

HUNTING AND FEEDING HABITS

Coyotes are omnivorous, meaning they eat whatever is available. Eighty percent of a coyote's diet consists of rodents. They are very opportunistic and will eat mice, rats, gophers, squirrels, rabbits, birds, deer fawn, insects, fruits, berries, carrion, pets and garbage. They are usually solitary hunters but will sometimes hunt in pairs for larger prey and very rarely hunt in packs as dogs and wolves do. The coyote can run up to 45 mph for short distances, can swim well, and are primarily nocturnal, although many are active during daylight hours. Coyotes have outstanding senses of smell, vision, and hearing. Add that to the fact that the animal is cunning and adaptable, and you have an effective predator.

BIRTH TO MATURITY

In April-May, a litter of 5 up to 11 pups are born in a den prepared by the female. The dens are generally located on well-drained hillsides, riverbanks, or the side of canyons

and gullies. The coyote reproduction level is directly related to attempts to eradicate it. Larger litters seem to be born in areas of intensive efforts to control its population.

Coyotes are not as social as wolves, but generally do mate for life. They form family groups that live and travel together. They live up to 10 years in the wild. It has been estimated that 30 to 50 percent of all coyote deaths come from human causes.

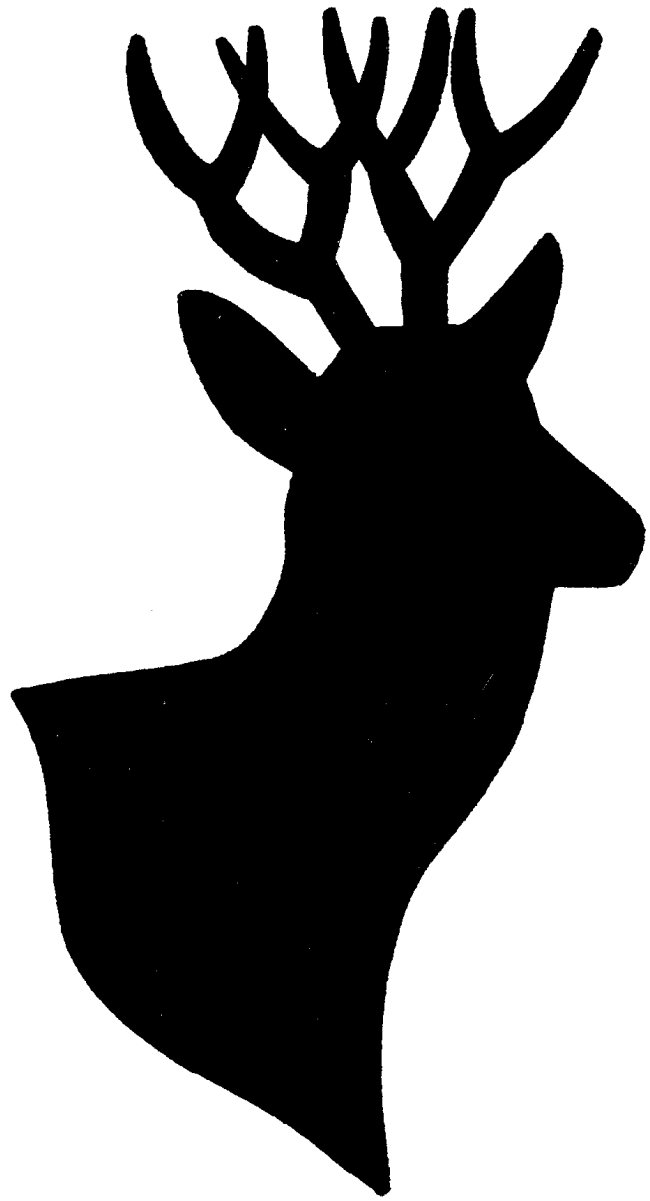
SAFETY

Since we have a large coyote population in the East Mountain area, here are some solutions to problems that might arise:

1. **DO NOT FEED COYOTES.** They become dependent on human food sources. This is considered the worst possible thing you could do to a coyote and the wildlife around you. Eliminate or move your outdoor water sources if you are having a coyote problem.
2. Protect your dogs and cats! Coyotes will attack and kill cats and small dogs. Do not allow your pets to roam freely at night. A covered dog run with a wire footing 6 inches underground is adequate if you keep the pets outside.
3. If you have poultry or rabbits, the shelter must be protected and secure, again, especially at night.
4. In winter, put all garbage in a sturdy, tightly secured, garbage can. Keep all pet food indoors. By May 1, all bear-proofed garbage must be kept in a sturdy metal shed or garage and put out on the morning of pickup.
5. Trim bushes and brush around your home so that coyotes cannot hide, waiting for kitty or fido to appear.
6. Ask your neighbors to assist by joining you in the above suggestions.

Typically, a coyote will run away from you if you meet one. If not, use a loud voice, or throw rocks or sticks at it to scare it away.

The coyote population is growing in the East Mountains with many stories of lost pets. Coyote overpopulation also has a negative effect on other wildlife, negatively affecting many species including foxes and bobcat. Not only does the coyote prey on these animals, it also competes for the same prey.



Deer

DEER AND ELK

There are two species of deer in the Sandia and Manzano mountains, the mule deer or black-tailed deer and the elk. The white-tailed deer and a smaller subspecies of the white-tail, the Coues deer, live in scattered parts of New Mexico but mostly in the southwestern part of the state.

MULE DEER

PHYSICAL APPEARANCE

The mule deer's name comes from its large ears that move independently. It is considered a large deer in the deer family, with the buck as big as 500 pounds. Bucks can be 3 1/2 feet at the shoulder not including the neck, head and antlers. Females are smaller and weigh less. Their color is commonly a grayish/brown ending with a completely black tail with white underneath. There is white in the ears and around the eyes. The bucks grow antlers or racks in the spring and shed their antlers in January or February after the mating season is over in November. A young buck usually has two points on each antler in the form of a Y, while an older buck will have an additional Y on each point, totaling four points on each antler.

SIGNS AND SOUNDS

Distinctive hoof tracks will tell you when deer have been nearby. The hoof of a mule deer is separated into two hooves while horses have one hoof. The scat is a grouping of medium-size brown pellets. Mule deer can run 35 miles per hour, leap 30 feet, and clear an 8-foot fence.



HABITAT AND FEEDING HABITS

Mule deer live in a wide range of habitat in New Mexico. But, they prefer broken country with forest, brush and open grassland. Their territory is between 90 to 600 acres, depending on the sex and the availability of forage. Deer are browse eaters, preferring buds, young shoots, shrubs, bark, leaves of woody plants, and fruits, instead of grasses. Mule deer can go several days without surface water by getting moisture from succulent plants. When there is a series of dry years or overpopulation, you will see browse lines on tree trunks, where deer have fed as high as possible.

BIRTH TO MATURITY

At age 2 years and 3 months, a young doe will usually produce only one fawn and subsequently produce two fawns the following years. The gestation period is about six months and the fawns are born in May or June. The fawn is light brown in color with white spots on its rump and back. Deer have a life span of fifteen years in the wild.

SOCIAL ORGANIZATION

Mule deer live in large clans, which the male defends against other males. A doe will aggressively defend a 100 to 200 acre area where her fawn is hiding. If the fawn moves, the mother will move her territory accordingly.

PREDATION

In New Mexico over-hunting and degradation of deer habitat due to human population expansion, poor management of habitat (producing a thick dessert of trees) and over-grazing from cattle have reduced every species of New Mexico's deer to an all time low population number. Given this, plus the onset of a new wasting disease, the future does not look good for New Mexico's deer population.

Deer use their keen sense of smell to warn them of predators. As the sun makes the air rise, the smells wafting on the warmed air helps them detect predators. That is why they prefer to use lower valleys at night and higher ridges and hills during the daytime.

The cougar is their natural predator depending on deer for its' main nourishment. Man, nationally kills over 400,000 deer yearly. Dog packs and coyotes will occasionally take a fawn or older/ill adult.

ORPHANED FAWN or INJURED DEER

1. If you happen upon a fawn, it is most likely hiding/resting while mother is off feeding. Do not disturb the fawn unless you are sure it is in trouble. If the fawn is small, wandering and crying.... something is wrong. Wait for several hours, and then call Wildlife Rescue of New Mexico at 344-2500 or the New Mexico Game and Fish at 841-8881/476-8000. If the fawn is older and eating on its own, it may need help getting enough food and water for a while. Put out a clean container of water, cuttings from bushes, pyracantha, alfalfa, or apples until it's able to fend for itself. **DO NOT HAND-FEED DEER.**
2. In case of broken legs or other injuries from being hit by a car, attacked by dogs or running into a fence:
 - A. If the animal is unable to stand up, call the N. M. Game and Fish at 841-8881/476-8000 or Wildlife Rescue of New Mexico at 344-2500 immediately.
 - B. If the deer is getting around, leave it on its own. It may survive and this is preferable to the trauma of chase and capture.

HEALTH CONCERNS

1. Deer are known to carry ticks, whose bite can give humans Lyme disease. However, there have been no known cases of Lyme disease in the Sandia and Manzano mountains and few reports in New Mexico.
2. Do not approach an adult deer. If they feel threatened or trapped, they could hurt/kill you with their sharp hooves or antlers.
3. Be alert while driving at dawn, twilight and at night. There are many auto accidents/deaths from hitting deer.

PROBLEMS AND SOLUTIONS

As more homes move into the mountains, mule deer are losing their habitat. Here are some suggestions to help you live with this beautiful animal:

1. Choose to share your yards with the wildlife around you by planting only native plants or be willing to plant vegetation that will help support wildlife.
2. There are deer-resistant plants available. Contact your local nursery for this information.
3. Fencing will work. Fences should be at least 8 feet high, angled to prevent the animal from jumping over. They should be made of mesh, high tensile wire, electric, or wood fencing. Deer will sometimes crawl under a fence so you should build your fence accordingly.
4. For protecting individual plants/trees, you can use black Dacron bird netting purchased at your local nursery.
5. Repellents can be used.
 - A. Bad taste: there are commercial products with the non-poisonous bitter ingredient thriam that can be used as a spray for plants and shrubs. Or, make your own repellent: mix 2 well beaten eggs, 1 glass of skim milk, 1 glass of water, and a spread thickener (a wetting agent found at your local nursery). Apply in the fall, and repeat when needed.
 - B. Bad smell: put pieces of the bar soap Irish Spring near plants and hang on trees. Hang rags soaked in ammonia, or purchase a commercial smell repellent and spray after each rain or watering.
 - C. Hang nylon bags full of human/dog hair, a mirror or strips of tinfoil.

ELK

The Indians call this species Wapiti but it is commonly known as elk. The original New Mexico elk population known as Merriam's elk was exterminated by 1900. The elk we now have in New Mexico comes from introduced descendants from a Yellowstone herd. Since this introduction, New Mexico's elk have fared well due to good conservation practices. A 2003 NMG&F air survey estimates a 70,000 to 80,000 elk population in New Mexico. The East Mountains are believed to have a small herd of less than 100 elk.

PHYSICAL APPEARANCE

The elk is the largest deer in North America. Their coloring is brown or tan with darker hair on the face, chest, stomach and legs. An elk's rump and tail are a lighter tan. Males have a dark beard and large antlers. Females are smaller and lack antlers. A bull can weigh over 1,000 pounds and a cow can weigh as much as 600 pounds.

SIGNS AND SOUNDS

Elk tracks are cloven hearts, much rounder and larger than deer tracks. In mud or snow, the dewclaws can be seen behind the main lobed print. Males create "rubs" on small trees while polishing their antlers. In winter, elk scat looks like deer scat but is larger. In summer, when forage is good, scat can look like flattened chips similar to cattle. The most distinctive sound in the mountains is the bugle (a loud, shrill whistle or scream that ends in a series of grunts) of a rutting male elk. Elk are primarily nocturnal but are especially active and can be heard bugling at dawn and dusk.



HABITAT

Elk prefer high open mountain meadows in summer, wooded slopes in winter.

BIRTH TO MATURITY

Calves are born in May or June after a gestation of approximately 250 days and weigh 30-40 pounds at birth. They are light brown with spots. They are entirely dependent on their mother's milk for one month and can continue to nurse for as long as nine months. Elk have lived to 22 years of age in captivity.

SOCIAL ORGANIZATION

In the non-breeding season, cows and young elk both female and male stay together. As they mature, young bulls spend more time together and apart from the main herd. In the rutting season, peaking in November, adult bulls join the herd of cows. Much bugling, jousting and clashing of antlers ensues ending with a winner. The most polygamous deer in North American; some bull elks have been know to have a harem with as many as 60 cows.

PREDATION

Man is the top predator of elk in New Mexico. Elk hunting is the most sought after hunting in New Mexico. Elk license fees in a large part helps support the NMG&F.

In nature, Cougar prey on elk and some bears have been known to take calves.



Flickers

FLICKERS

This is the only bird we plan to cover in our Wildlife Steward book. We've received many calls over the years from our mountain neighbors about problems with flickers. Unfortunately, this beautiful woodpecker can do a lot of damage drilling holes into the wood siding, eaves and wood shingles of homes. They will even attack stucco homes. They also like to drum on metal objects like chimney caps and gutters.

The flicker is the most abundant woodpecker species in New Mexico. Flickers are territorial in nature and they drum to mark their territories and attract mates. They also drill holes for nesting, roosting, and in search of insects.

PHYSICAL APPEARANCE

A Flicker is a large woodpecker with a barred cinnamon brown back with white rump. They have a light brown head, gray face and neck. Males have a red mustache and a black crescent on the chest with black and white spotted under-parts. When in flight, the salmon pink inner wings and tail lining flash their colors.

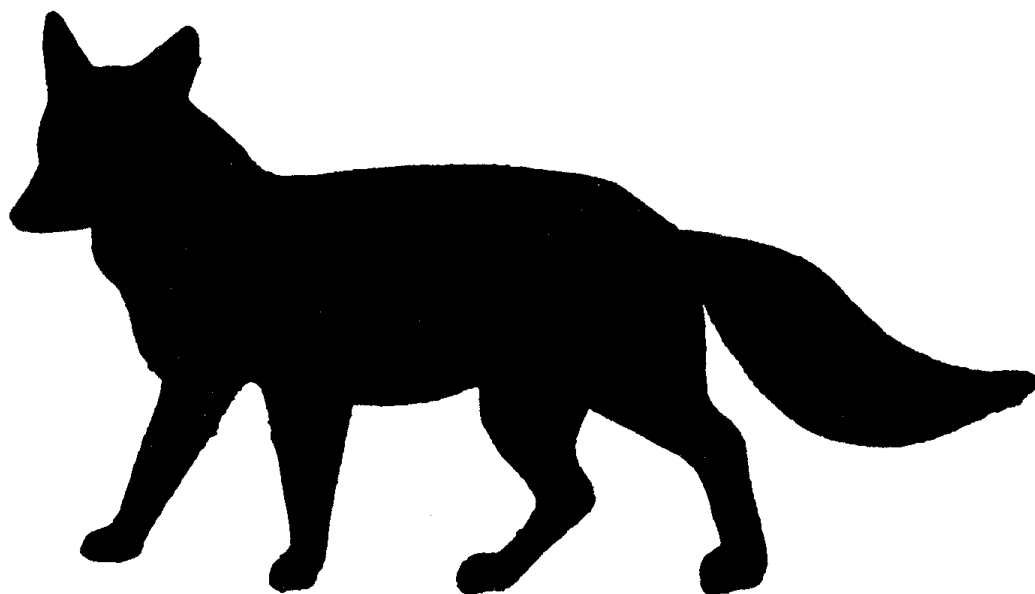
The flicker is protected by law. You must obtain help or a special permit from NMG&F 841-8881/476-8000 to destroy this bird.

However, BearWatch feels there is a kinder way to handle this problem and would hope you would try these suggestions first. All of these suggestions should be attempted as soon as the flicker has become a problem because once it has established its nesting site or territory, it will be very reluctant to leave the area.

Suggestions for ridding your home of flickers:

1. Provide an alternate drumming site. Nail two boards together at just one end (producing resonation) and hang on a secure surface.
2. Repair damaged and/or favorite drumming areas with metal rather than wood.
3. Spray the flicker with water from the hose, and be consistent about it. This is the easiest procedure and seems to work best.
4. A coat or two of clear wood preservative discourages flickers, because they do not like the taste.
5. Treat wood with a sticky/tacky repellent. However, be aware that this can stain the wood siding.
6. Consistently use noise-making tactics by banging garbage can lids together.
7. Use non-toxic pest control methods to rid your siding, etc. of insects.

8. Hang aluminum foil strips, colored plastic streamers (several inches wide and three feet long), hawk silhouettes or mirrors near the affected site
9. Stop feeding suet and peanut butter.



Fox

FOXES

Elusive, agile, intelligent, quick, beautiful and beneficial -- all accurately describe the fox. Foxes are canids, members of the dog family and possess well-developed teeth that are suited to killing and holding prey. Their bodies are long with bushy tails, large pointed ears, elongate muzzles and short legs (compared to other canids).

Unlike wolves, coyotes and domestic dogs, foxes have much in common with cats. They are secretive, hunt alone and may play with their prey. Their movements are silent, fluid and dainty. The gray fox is adept at climbing trees and has been spotted sleeping in Ponderosa, Pinon and Douglas Firs.

Foxes are gifted with very acute senses of smell and sight but it is their sense of hearing that is truly remarkable. They can determine the exact location of an underground mouse and snatch it right out of the earth. Complement this with their ability to blend into their environment and one would assume that the fox population is faring well in the U.S. Sadly, this is not the case. Fox populations are declining throughout our country and the East Mountain Area is no exception. Development is destroying habitat at an alarming rate and the car and domestic dogs are now the main enemy to our fox population.

GRAY FOX

PHYSICAL APPEARANCE

The gray fox is the fox you will find in the Sandia and Manzano Mountains. The gray fox is of course gray but they have a lot of rusty red on their coats. Its grizzled gray and black fur and the prominent black streak along the top of the back extending to its black tail tip easily identify this fox. The feet, legs, sides and backs of the ears are a rusty red; the muzzle, neck and chest are white. Their size is 3-4 feet long; including the tail and average weight is 7-13 pounds.



RED FOX

The red fox is not a native species. In the mid 1800's it was imported to the east coast from England for running hounds and has proliferated westward since.

PHYSICAL APPEARANCE

The red fox is our largest fox species in North America, measuring 22"-25" excluding the tail and weighs 8-15 pounds. The red fox can be found in northern New Mexico. Their thick coat is brownish red on top and buff underneath. The legs, feet and outer ears are black and the long bushy tail is red with black hairs interspersed. The name "red fox" is a misnomer because this species can be black, gray or silver. It is the white tail tip that distinguishes it from other foxes and canids in New Mexico.

KIT FOX

If we are fortunate, a kit fox family could be found in the Sandia Knolls and areas in the state east of Edgewood.

PHYSICAL APPEARANCE

Kit foxes are about the size of a large house cat and are closely related to the swift fox, (with whom it may interbreed). Their coat is light tan to pale grizzled gray and the tail is tipped with black. Their under-parts are white. The ears are exceptionally large and are believed to be well adapted for detecting sounds of prey in the dry desert air. Their large ears may also assist with body heat regulation. Kit foxes tend to be more carnivorous owing to the nature of their habitat. Weight is usually less than 4.5 pounds.

SIGNS AND SOUNDS

Like other canids, foxes produce quite a variety of sounds. Barking is a warning to other foxes; growling is used for intimidation and an assortment of other sounds express alarm, fright or anguish. Females tend to yap and males tend to yelp.

Family territories are marked by urine and scat which is conspicuously set on rocks, logs and trails. Fox scat is small and cylindrical with a pointed end. Gray fox eat more berries, hence darker scat at times. Red foxes have scent glands on their feet to mark their regular routes and scent glands are also present in the tail. "Scent posts" may mark boundaries.

Tracks are very similar to a house cat except that claw marks can show in soft soil or snow.

HABITAT

Fox territories range from about 1.5 to 20 square miles, depending upon the species, diversity and type of habitat, food availability, density of cover, degree of competition and presence of physical barriers. Gray fox are the most secretive. They inhabit the forested rocky terrain of our mountainous areas. Dens are made under boulders and rock piles and used year round. The red fox is the gray fox's neighbor but it is less wary of humans and doesn't require as much cover. Kit foxes inhabit the grasslands and plains. Both red and kit foxes den in dug out holes in the earth or in the abandoned burrows of other animals. Dens usually have multiple entrances with camouflaged escape exits.

HUNTING AND FEEDING HABITS

Foxes are of great benefit to residents because they help control the proliferating rodent populations. In fact, rabbits, gophers, ground squirrels and a variety of small rodents are their staples. True omnivores, foxes are opportunistic and will eat almost anything. Their diet can also include juniper berries, pinon nuts, cactus fruit, insects, reptiles, birds, bird eggs, and carrion. During the denning period food is eaten in the den or cached for later use.

MATING

Foxes usually live in pairs or small family groups consisting of the mother, father, the young pups and possibly one or two unmated aunts who help with rearing.

They are monogamous and produce one litter per year. Breeding occurs in late winter and early spring. Gestation lasts 49-56 days, varying with the species. An average sized litter is four pups, though as many as ten and as few as one are possible. Kit fox mothers seldom leave their dens during the nursing period, relying heavily on the father for sustenance. Red and gray fox mothers, however, leave the den to forage and supplement the family's provisions. At three months, gray fox pups accompany their mother on foraging trips. By five months they're independent and this is true for red and kit fox pups as well. Foxes become sexually mature as yearlings but very few survive to that age.

PREDATION

Domestic dogs, (left to run loose), coyotes, bobcats, eagles, large owls and of course man all prey on foxes. The fox's primary defense is camouflage and elusiveness. When frightened, red and kit foxes run while gray foxes climb trees. Fighting seldom occurs, except to protect the young.

PROBLEMS AND SOLUTIONS

As previously mentioned, foxes are an ally. They are not likely to cause problems unless you raise fowl or rabbits.

1. Foxes preying on livestock or pets. Foxes rarely pursue prey larger than themselves. When a red fox attacks fowl, rabbits or cats, it is attributable to a scarcity of natural food sources. Foxes can dig under fences and climb over them so coops, hutches and pens should be very sturdy and enclosed on top. Properly placed electric fences, which cost very little have been known to work wonders and will keep roaming dogs and other wildlife out as well. (Use an approved fence charger with alternating current. Be sure and check with the county inspector for guidelines and/or limitations.)
2. Foxes denning in empty buildings. Usually foxes den only during the breeding season. Denning in buildings probably indicates that the vixen will soon give birth or already has. If feasible, allow the family to remain; the den will be abandoned within three months time. If not, dogs, loud noises and the scent of humans will usually cause the mother to find a safer den. Don't over do it. Allow the vixen ample time to relocate her family without the threat of harm.
3. Foxes raiding trashcans and compost piles. As habitat dwindles the scent of organic trash can tempt the fox's omnivorous appetite. Trashcans should be kept behind locked doors, away from heat sources that circulate odors. Compost piles rarely present a problem but if this occurs build a simple bin with a locking top. This will also enhance moisture retention.

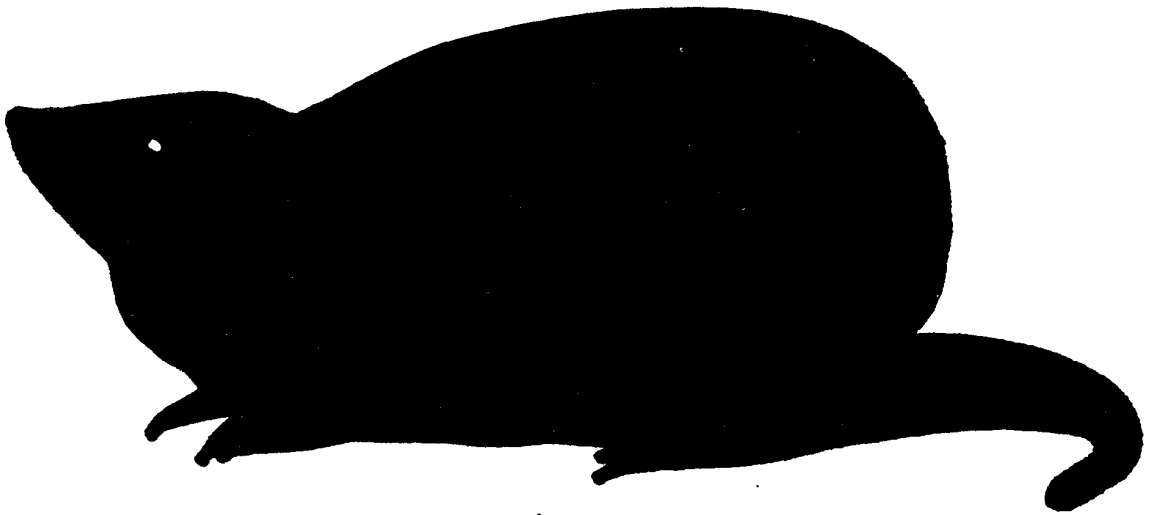
If all else fails you can contact Professor Robert Harrison, U.N.M. Conservation Biologist for assistance. His e-mail address is rharison@unm.edu. He is deeply

committed to the survival of fox in our area and has provided us with some important recommendations.

RECOMMENDATIONS

1. Dogs shouldn't be allowed to run free. Aside from being against the law, dogs can spread rabies, distemper, mange and other canine diseases to foxes.
2. Dog droppings should be disposed of to prevent infection.
3. Weeds should be removed mechanically or manually rather than with herbicides, which enter the food chain through the rodents that eat the affected weeds. Remember foxes eat lots of rodents.
4. Mechanical traps rather than poisons should be used to kill rodents.
5. Though thinning overgrown wooded areas is important for forest health and fire control, woodlands should not be cleared. They provide necessary cover and habitat for prey. When considering building, remember that strips or "corridors" of trees that connect to undeveloped areas are much more advantageous than isolated groups of trees. Neighbors can plan together and plant trees to create or improve wildlife corridors.
6. Brush areas, rock piles and boulders should not be moved or eliminated. They also provide important shelter and cover.
7. REGARDING RABIES: rabies is very unusual in foxes but it can occur. Both rabies and distemper causes foxes to act oddly. They may approach people, walk in circles and appear disoriented. Limping, drooling and a mangy, unhealthy appearance can also be warnings. Avoid touching sick foxes and try to get help. One person should keep the animal in sight while the other calls the New Mexico Department of Game and Fish at 841-8881/476-8000 or Bernalillo Animal Control at 873-6706.

Dr. Harrison conducted a three-year study of the gray fox in the East Mountains. He and his staff also polled mountain residents to determine their attitudes. A very high percentage of the questionnaires were returned and over 90% of the respondents expressed positive attitudes about having foxes as neighbors. Dr. Harrison presented his findings from the study in August 1995. For further questions on fox, Dr. Harrison can be contacted at rharison@unm.edu.



Gophers

GOPHERS

Pocket gophers get their name from the large, fur lined, external pouches they use to carry their forage back to their nest and storage tunnels. People become very upset when they see evidence of gophers. The first question you should ask yourself is how extensive is the damage? And the next question you should ask: is this a mole (which eats insects and is considered very beneficial) or a gopher? And remember, both of these animals aerate the soil, which is beneficial to both soil and plants.

PHYSICAL APPEARANCE

There are two species of gophers in the Sandia and Manzano mountains, The Botta's pocket gopher and the Yellow-faced pocket gopher. The gopher is a medium sized, stocky, brown-furred rodent that has short legs with long claws for digging, a short neck, a wide, large head, small ears and eyes, protruding front teeth and a short, almost naked tail. An adult gopher can weigh as much as 2 pounds and be 12 inches in length.

SIGNS

Gophers can sometimes be mistaken for moles and vice-versa. It is important to differentiate because a mole is an insect-eater and very beneficial while a gopher is an herbivore and can do damage to gardens, etc. Gophers deposit separate cone-shaped mounds at tunnels outlets while moles leave a continuous trail of raised soil. Gopher holes appear fan shaped with the hole to one side plugged with earth and grasses while molehills tend to be circular with a center entrance hole plugged with earth.

HABITAT

Gophers live primarily underground and like to inhabit areas of soft soil. They live in a wide variety of habitat from streamsides to grasslands.

FEEDING HABITS

Gophers will often feed above ground in the early morning and evening. But they primarily eat roots, bulbs, grasses, and complete plants while tunneling underneath. They have an extensive network of tunnels for nesting and storing plant food. They do not hibernate in the winter and therefore collect and store large amounts of forage to last them through the winter months.

MATING

They are solitary animals, rarely sharing a tunnel system. They have one to two litters a year with an average of five young to a litter. The nest is built in a deep tunnel under a rock or the roots of a bush or tree.

PREDATORS

Owls, hawks, foxes, coyotes, badgers, bobcats, snakes and humans are predators to this rodent.

PROBLEMS AND SOLUTIONS

Gophers are one of the most difficult animals to get rid of. They have tunnel systems as long as 50 feet.

1. Never put poison out for gophers; it will poison the complete food chain of wildlife that predate gophers.
2. In a limited area you can protect special trees and plants by burying hardware cloth or screen 18 to 20 inches deep.
3. Irrigate and keep ground constantly moist to deter gophers. Flood the tunnels to flush out the gopher for predators.
4. The following solution can be prepared and poured on areas where gophers are occurring:

Combine the following:

- ½ cup warm water
- 4 Tbsp. liquid dish soap
- 4 Tbsp. castor oil
- 4 Tbsp. urine

Stir this into 2 gallons of warm water and apply to ground.

5. A battery operated sound device can be placed near the tunnels. The device can be purchased from local nurseries or garden catalogs.
6. Some people plant “gopher purge” but we don’t know if it is effective.
7. Unwrap juicy-fruit chewing gum and put into the opening of the gopher mound. If the gopher eats this, it will kill it.
8. A device called the Black Hole purchased at your local nursery seems to work best. It does kill the gopher. If a lot of damage is occurring to special trees and plants or if there is a lot of water loss due to gopher tunnels, you may have to resort to this action.

Or you may call your local agricultural agent of Wildlife Services at 346-2640 for more suggestions.

Mice & Rats



MICE AND RATS

The most common mouse to be found in the Sandia and Manzano mountains is the deer mouse. Actually, deer mice are considered to be the most numerous mammals in the western United States. Our native mice, along with native rats, are considered the mainstay of many predators: hawks, owls, fox, coyote, bobcat, raccoons, weasels, etc. A healthy mouse population is most important to predator survival.

There is a large and interesting variety of mice and rats in this area: Deer Mouse, Rock Mouse, Brush Mouse, Pinon Mouse, Cactus Mouse, Western Harvest Mouse, Western Jumping Mouse, Hispid Cotton Rat, and the White-throated Wood Rat. But, we'll discuss just two species -- the deer mouse and the interesting wood rat.

DEER MOUSE

PHYSICAL APPEARANCE

The deer mouse and the above related species weigh approximately 1 oz., are varied lengths of 3 to 7 inches including a 1 to 3 inch hairless tail. Deer mice are pretty, delicate animals with large dark eyes, grayish-brown fur, large pointed ear, white feet and a white underbelly.

SIGNS AND SOUNDS

A sure sign you have mice in your home is seeing a mouse from the corner of your eye skittering under a piece of furniture. Or you may observe very small (1/8 inch) rod-shaped droppings in your home or shed. While lying in bed at night, when the house is quiet, you may hear scratching noises in the walls and ceiling.



HABITAT AND SHELTER

Deer mice prefer woodland areas below pine forests. They like to build their nests inside underground burrows, under tree trunks, among rocky areas. A deer mouse's nests can be as intricate as a bird nest, woven of dried grasses and lined with soft feathers, fur, etc. to create a cozy nursery.

FEEDING HABITS

Deer mice, like most mice, do most of their feeding at night. They eat a variety of food comprising of seeds, buds, berries, grains, fruits, worms, insects, and other small animals. Mice do not hibernate in winter. They store their large winter cache of food in a multitude of places to consume on cold winter days.

MATING

After a gestation period of 28 days a litter of three to seven babies is born between March and September. The deer mouse can have a litter of young mice five to eight times a year! A young deer mouse reaches sexual maturity in 6 weeks.

SOCIAL ORGANIZATION

Mice have a definite social ranking among males with one dominant male. They mark by scent/urine to protect their territories. The weaker males feed during the day while the dominant male feeds at night and sleeps in his nest during the day. Males have larger territories than females, and each mouse checks out its territory constantly. It can be as small as a few square yards during a good year.

HEALTH CONCERNS

In New Mexico mice can be to be carriers of bubonic plague and the hantavirus. Mice are able to squeeze through a hole the size of a dime.

Here are some solutions for mice problems:

1. Fill small holes, such as around drainpipes, using steel wool or quick drying cement.
2. For filling larger holes, use mesh hardware cloth.
3. Spread ground cayenne pepper around the holes that can't be filled. Mice don't like the smell of cayenne pepper. Or scatter small, hot, dried red chili peppers in effected places.
4. Store all food in mice/proof containers (plastic, glass, etc.) Regularly discard newspapers, garbage, etc. Wash tops of soda cans with a disinfectant before drinking if mouse signs are evident. Discard uneaten pet food at the end of the day. Keep a tidy home environment.
5. Feed only enough birdseed to last the day. Store birdseed and pet food in plastic containers with lids that can be tightly closed preferably in a sturdy metal shed.
6. Keep sheds and garages clear of rubbish, etc... With hantavirus prevalent in the state, be careful when cleaning an area with dead mice or mouse droppings. The virus can become airborne. Be sure to air out the area at least one hour before; wear a facemask, rubber gloves, and use chlorine bleach or a disinfectant. Use a shovel when removing dead rodents.
7. Keep your woodpile away from your home. Woodpiles make good homes for rodents. Ideally, a woodpile should be located at least 100 feet from your home and should be elevated to reduce nesting sites for the mice.
8. Never pick up a dead animal with bare hands. Wear gloves and use a shovel to dispose of it. Fleas spread bubonic plague, and there are usually fleas on dead animals. The fleas can't feed on a dead animal so they will jump on a living, warm-blooded animal (such as a human). Wash thoroughly after handling a dead animal!

9. Live trapping can be used, but unless you have found their source of entry into your home, the mice will return.

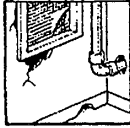
OTHER CONCERNS

Besides being carriers of hantavirus and bubonic plague, mice can also damage the vegetation in your yard. Here are some solutions to common problems:

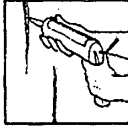
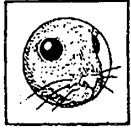
1. If mice are chewing on your bulbs, build a mouse fence around your flower-beds. To do this place fine mesh netting starting below ground and extending 3 to 4 inches above ground completely around the bed.
2. To protect your young trees from mice, wrap heavy-duty aluminum foil around the tree's trunk from ground level to 1 foot above ground.
3. In the winter, keep mulch 2 to 3 inches away from tree trunks so that the mice won't bed down for the winter around the trees.

● **AIR OUT** closed sheds or buildings **FIRST**.

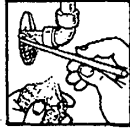
● **SEAL UP** so mice cannot get in.



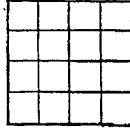
REPAIR screens, holes, cracks, or any opening as small as a dime.



Use CAULK for cracks,

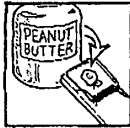


STEEL WOOL for larger holes



or use METAL SCREEN with 1/4" mesh.

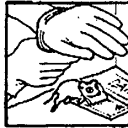
● **TRAP UP** until all mice are gone.



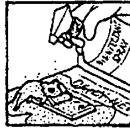
Bait TRAP with PEANUT BUTTER.



Place TRAP on NEWSPAPER sprinkled with FLEA POWDER.



When a mouse is caught put on RUBBER GLOVES.



Soak mouse & TRAP with DISINFECTANT.



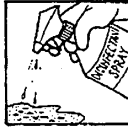
Roll up trap & mouse in newspaper. Put in TRASH BAG.

● **CLEAN UP** droppings and nests.

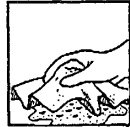
DROPPINGS:



Put on RUBBER GLOVES.



Soak droppings with DISINFECTANT.



Pick up soaked droppings with PAPER TOWELS.



Put PAPER TOWELS in TRASH BAGS & throw away.

NESTS:



Dust nest with FLEA POWDER.



Wait 1 day. Put on RUBBER GLOVES.



Soak nest with DISINFECTANT.



Pick up soaked nest with PAPER TOWELS.



Put PAPER TOWELS in TRASH BAGS & throw away.

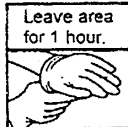
● **AIR OUT** closed sheds, buildings, & cabins.



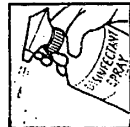
Put on HEPA MASK.



Open doors & windows to AIR OUT.



Leave area for 1 hour. Put on RUBBER GLOVES & clean up using DISINFECTANT.



Put soaked nests & droppings in TRASH BAGS & throw away.

FOR HANTAVIRUS PROTECTION you will need:

- CAULK, STEEL WOOL, & METAL SCREEN

- SPRING-LOADED MOUSE TRAPS

- PEANUT BUTTER or other bait

- NEWSPAPER

- FLEA POWDER

- RUBBER GLOVES

- DISINFECTANT: mix 1 1/2 cups BLEACH in 1 gallon WATER or use Lysol and other brands

- PAPER TOWELS

- TRASH BAGS

- HEPA MASK Important! Read information on back of pamphlet.

- And always WASH YOUR HANDS!



for more information call: 1•800•879•3421



WOOD RAT

The most common rat living in the Sandia and Manzano mountains is the wood rat. This very industrious creature is also known as the pack rat because it sometimes collects and decorates its nest with shiny, man-made objects. Wood rats prefer to stay away from human dwellings and it is rare to have a problem with this animal. Coyotes, fox, and owls prey upon them. Wood rats are an important link in the food chain. When alarmed, they drum their hind foot on the ground as a warning.

PHYSICAL APPEARANCE

The wood rat is large with a total body length of 15 inches including a 5 1/2 inch tail and weighs approximately 6 ounces. The fur is soft and dense, dark above with a white underbelly. A wood rat's tail is thick, round and blunt-ended, covered with short hairs that are dark above and white below. A wood rat's tail is shorter than head and body combined. The eyes are large and the ears are large and naked.

SIGNS AND SOUNDS

Some of the signs that may tell you wood rats are about are their 1/4 to 1/2-inch droppings. They have also been known to burrow along fence lines or foundations. Occasionally you will notice gnawing marks on doors, in corners of sheds or on access areas to buildings.

Are you missing your Aunt Mabel's 18 piece silver place setting? (just joking)



HABITAT AND SHELTER

Wood rats live in a variety of natural habitats from mountain to desert. A wood rat nest can sometimes be detected by the large amount of sticks, cacti, natural and shiny man-made articles they collect to decorate their nest sites. Their ground or tree nesting sites are intricately designed, with many exits, and built of twigs and leaves. Some nests have been as tall as 5 feet.

FEEDING HABITS

Wood rats eat plants, new stem and leaf shoots, fruits, berries, and they especially like acorns and cacti. They are nocturnal and do most of their feeding at night.

MATING

Wood rats breed from April to September with the birth of one to three young in the litter. They are not as prolific as the imported Norway and Roof rats.

HEALTH CONCERNS

All wild rodents carry fleas, as does the wood rat. Therefore, there is a concern of bubonic plague. Here are some solutions to those concerns:

1. Follow solutions-directions for deer mice.
2. Close all holes with wire mesh. A large rat can gain access through a 1/2-inch hole.
3. Cut weeds and brush around foundations of houses or sheds.

4. For severe problems, install fine-mesh hardware cloth or pour concrete footings vertically a foot below ground level and then, at a 90-degree angle, another foot out from the foundation.
5. Never pick up a dead animal with bare hands. Use gloves and shovel to dispose of it and wash thoroughly afterward. Fleas spread bubonic plague, and there are usually fleas on dead animals. The fleas can't feed on a dead animal so they will jump on a living warm-blooded animal (such as a human). Wash/shower thoroughly after handling a dead animal!
6. With hantavirus prevalent in the state, refer to Mouse Health Concerns section.
7. As a last resort, call Wildlife Rescue of New Mexico at 344-2500 or Wildlife Services at 346-2640 to find out how to have the wood rat humanely trapped and relocated.

OTHER CONCERNS

Just like mice, rats can also damage your plants. The suggestions in the Other Concerns section for mice can also be used to reduce the destruction done by rats.

Moles



MOLES

Although moles look like rodents, they are from the shrew family. It is important to differentiate between a mole and a gopher, so that you do not destroy this very beneficial insect-eating creature.

PHYSICAL APPEARANCE

Adult moles have stocky bodies up to 6 inches in length, long, naked snouts, and short powerful legs with front sickle shaped legs with five fingered clawed hands. The eyes are very small and the ears are not visible. The velvety fur is short and brown or black/brown with lighter colors underneath.

SIGNS

Since moles live virtually their whole lives underground, the only way you know you have this creature living nearby is the marks he makes upon the earth.

Molehills tend to be circular mounds of dirt with an opening in the center plugged with earth. In contrast, gopher holes are earth pushed out into a fan shape, with the entrance hole to one side. Moles feed close to the surface thus creating long ridges that are used temporarily. Gopher tunnels are not usually visible.

HABITAT

In New Mexico, moles prefer soil close to rivers, streams and waterways. The mole's tunnels can be just inches beneath the surface to three feet deep with a diameter of no more than 2 inches. They mark their tunnels with scent marks and will aggressively defend their territory.

FEEDING HABITS

Since the mole is of the shrew family, it has a high metabolism and will consume its own body weight in one day and therefore eats night and day. They eat insects, larvae, slugs, earthworms and occasionally roots, seeds and bulbs. The damage they do to gardens is unsightly rather than costly.

MATING

The only time moles are seen above ground is when they are collecting nesting material. They have only one litter a year with 2 to 7 babies. Mother mole puts the nursery deep in a nesting tunnel, away from her living quarters. A mole will live its entire lifetime in its original territory if not disturbed.

PREDATORS

Since moles are ground dwelling creatures, their main predators are animals that have the capability to dig them up: badgers, coyotes, fox and weasels. They are very vulnerable when out of their tunnels because of their poor eyesight and slow movement.

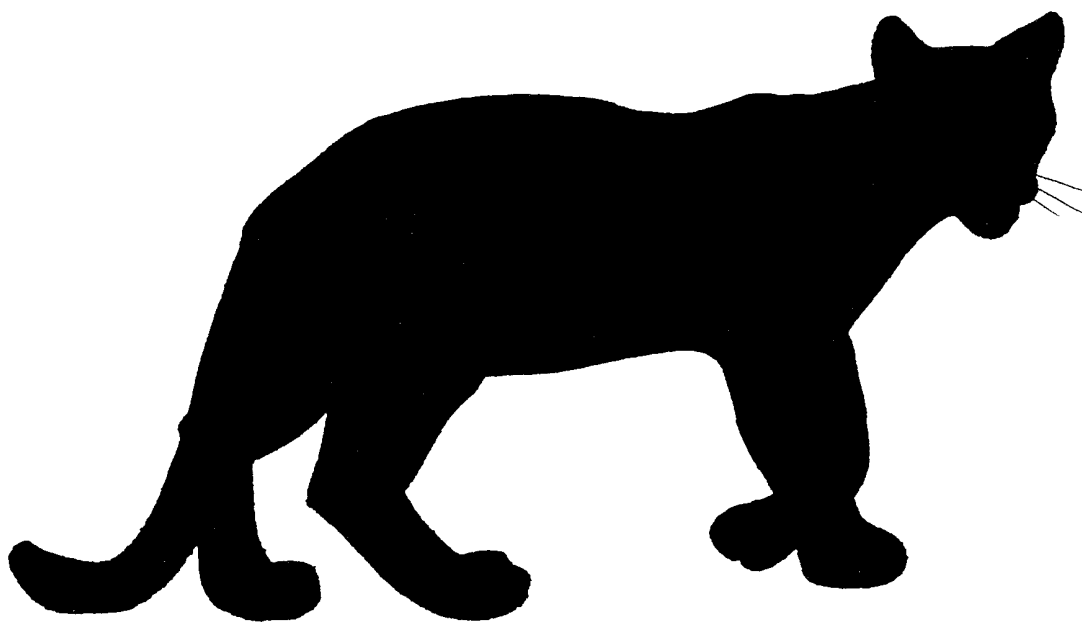
PROBLEMS AND SOLUTIONS

The only problem a mole can cause is its unsightly tunneling while searching for insects. They are also beneficial in aerating the soil.

1. Do not poison moles; it can kill many animals in the food chain.
2. Use non-toxic insect and grub control in your garden; moles come into your garden for insects.
3. Put in quarter-inch mesh hardware cloth 12 inches deep, with a 12-inch extension at 90-degree angle on top, around flowerbeds or gardens.
4. Moles do not like sound vibrations. Use sound repellents pushed into the tunnel. Use your imagination or buy a man-made sound maker.
5. Use thiram, a non-toxic, chemical repellent to protect bulbs.
6. Place a partially crushed garlic clove into any open mole holes. This will repel the moles.
7. As a last resort, pour the following mixture into an open mole hole:

- 1 Quart water
- 1 tsp. chili powder
- 1 Tbsp. liquid dish soap
- 1½ Tbsp. Tabasco sauce

Remember, a mole can survive only two hours without eating because of its metabolism.



Mountain Lions

MOUNTAIN LIONS

The Sandia and Manzano Mountains provide ideal habitat for mountain lions, although it is not believed we have a large population. However, there are regular mountain lion sightings and your knowledge about this beautiful animal will make you feel more secure about how people and mountain lions can coexist.

PHYSICAL APPEARANCE

Mountain lion, or *Felis Concolor* (cat of one color) is typically tawny in color; a light golden brown, with ears and tail tipped with black. They have clear yellow eyes and a pink nose. Like most species, the male is larger than the female, weighing 150 pounds on average and measuring 8 feet including the tail. The tail accounts for about 40% of the total length. Females can weigh up to 90 pounds and measure 7 feet in length.

SIGNS AND SOUNDS

Mountain lion tracks are easily recognized. Their back feet have 4 toes with 3 lobes. The front feet have five toes and, in combination with the large size, that distinguishes it from dogs and coyotes. Claw marks are typically not seen, since mountain lions, like all cats, have retractable claws. Lions hide their kills by covering it with a combination of leaves, twigs and dirt. Like all cats, they use scratching posts. These scratches can be seen high up on a much used tree trunk. They are usually secretive and quiet, but vocalizations can include growls, hisses, and roars and high-pitched screams when in heat. Lions mark their territories with visible spots of urine and feces. Their scat is large and varied; cylindrical scat and pellets that are filled with hair and pieces of bone.



HABITAT

Mountain lions can live in a variety of habitat, from desert to sub alpine mountains, but will almost always be found where there are plentiful deer. Their range varies depending on gender, with males covering as much as 350 sq. miles, and females as little as 10 sq. miles. Their hunting territories can be several separate areas connected by pathways or can be one large area. Since cougars are stalking predators, they must get close to their prey. They have little stamina for a long chase, but are capable of great speed at short distances. They can leap at least 20 feet from a standstill. Therefore, they seek out habitat that has thick vegetation and a rugged, rocky terrain.

HUNTING AND FEEDING HABITS

Mountain lions are generally solitary hunters. They are carnivores and prey upon deer, young bears, coyotes, raccoons, porcupines, skunks and rabbits. They have specialized teeth and claws for hunting their prey. Like other members of the cat family, they have rough tongues that aid them in scraping meat from bone. Studies have shown individual mountain lions in the same area to have a strong preference for specific prey (one preferring deer, while another rabbit). This is thought to help limit competition with each other.

BIRTH TO MATURITY

Breeding occurs throughout the year, but females usually give birth in the late spring/early summer to 2 or 3 young, called kittens. The young are born in a den, and the kittens are about 12 inches long and weigh about 1 pound. They are covered with soft tan fur, with a smattering of dark spots, which will eventually disappear. The kittens learn to hunt by watching their mother, who begins to take them to her kills when they are about 6 weeks old. Kittens remain with their mother until they are about 1 1/2 years old, and are capable hunters. Black bear and other mountain lions will predate young lions. Mountain lions are thought to live up to 12 years in the wild.

SAFETY CONCERNS

Typically, mountain lions are evasive of people, and prefer remote, primitive habitat. However, they are usually found in areas with cover and deer, and that can mean near urban developments, which can mean human-mountain lion contact.

To minimize the chance of an encounter with a mountain lion, people need to have a healthy respect for this large cat. You can do this by following these guidelines and remember that every situation with a mountain lion is different:

LIVING AND HIKING IN COUGAR COUNTRY

- Don't jog, hike or walk alone.
- Don't jog, hike or walk at dusk or dawn
- Keep children within arms reach when hiking
- Carry a sturdy walking stick
- NEVER APPROACH A COUGAR

IF YOU ENCOUNTER A COUGAR

- STOP! STAY CALM
- Immediately pick up children and calm them
- DO NOT RUN - running encourages the cat to pursue
- Face the cougar and stand tall
- Open jacket or lift backpack over your head to appear larger
- Back away slowly
- If a cougar approaches - throw rocks, sticks and speak loudly
- If a cougar attacks - fight back

If you live in the mountains and have children, you must supervise them very carefully. Mountain lions are attracted to the noises that children make and their fast movements. Use common sense, be watchful, talk to your children. Make them aware of their surroundings and the animals that live here. Go over the above list with them. This is the largest predatory cat in North America and it shares this mountain with you. It's true that we hear about mountain lion attacks but the truth is that they are very rare. There have been fewer than 15 fatalities in all of North America in the last 100 years.

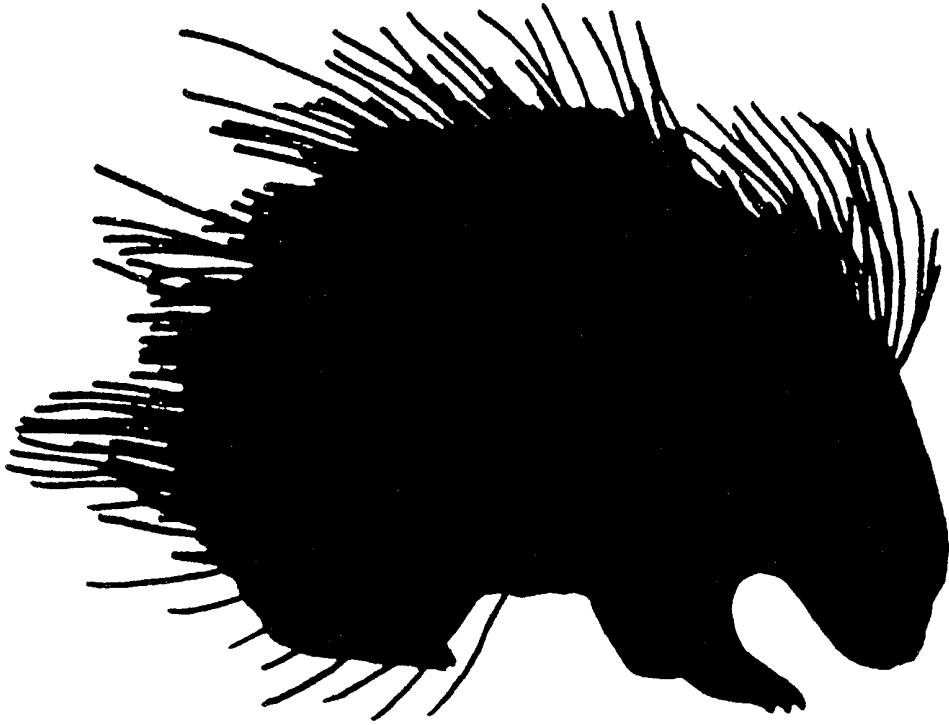
OTHER REMINDERS:

1. DON'T FEED WILDLIFE. Predators will follow wildlife into your yard.

2. Keep pets in at night or keep them in a covered kennel. Also, you should keep livestock in a shed or barn at night where lions are prevalent. A lion can jump an 8-foot fence.
3. Don't leave pet food out at night; it attracts raccoons, which can attract mountain lions.

The mountain lion's chief enemy is human encroachment on its habitat. Next to the bear, it is believed to be one of the most vulnerable animals in the Sandia and Manzano mountains.

Porcupines



PORCUPINES

Porcupines are the second largest rodents in New Mexico after the beaver. We believe the porcupine population in the East Mountains is very low to non-existent. If you have heard of, or seen a porcupine, please call BearWatch at 281-9282.

PHYSICAL APPEARANCE

Porcupines have a strong compact body with an arched back perched on short thick legs. Porcupines are approximately 35 inches in total length and weigh between 18 to 20 pounds. The most distinguishing feature of the porcupine is the 30,000 light and dark-banded quills on its back and tail. The tail is approximately 8 inches in length. Porcupines have small eyes and ears. They have strong, sharp claws for climbing and digging in pursuit of their food.

SIGNS AND SOUNDS

A porcupine can be spotted in trees in the wintertime when leaves have dropped. They will litter the ground under a tree with their droppings and the twigs and leaves they have been eating. Porcupines will strip bark from trees leaving many tooth marks on the white cambium. Their scat is varied but can resemble deer scat. A porcupine's tracks are distinctive with pebbled knobs on the bottom of the feet leaving a stippled effect. The fore prints (2 ½ inches long) and rear prints (over 3 inches long) are oval with 5 claw marks. Their tracks in snow looks as if a broom is sweeping afterward, which of course, is the tail swishing side to side as the animal lumbers along. When breeding, they make a variety of sounds including groans, grunts and squeaks.



HABITAT AND SHELTER

Porcupines are nocturnal and venture out mostly at night. They prefer dry, bushy woodlands and riparian (stream) areas. They will winter in a rock crevice, an old tree trunk or a shallow cave to find protection from the elements.

FEEDING HABITS

Did you ever wonder what a porcupine eats? A porcupine is a strict vegetarian and eats primarily young twigs and leaves in springtime and summer and the cambium under bark in the wintertime. They have large, strong front teeth to aid them in their foraging. A porcupine spends most of its time in pine, fir and spruce trees where it will also eat pine needles and mistletoe. On the ground, they eat certain plants, clovers, flowers and grasses. Occasionally they have been observed eating deer and elk antlers for the calcium and other minerals found in them. Nothing goes to waste in nature.

BIRTH TO MATURITY

Porcupines are solitary animals unless they are breeding. They mate in October and November. After a long gestation period of 7 months, one pup is born in May or June. The pup is born with soft quills, which will harden within 30 minutes of birth. The life span of a porcupine is 7 to 8 years.

PREDATION

Few animals predate porcupines because of the danger of dying from well-delivered quills to the face, mouth and eyes. Occasionally, a mountain lion, bobcat or coyote will try to predate this animal.

SAFETY

The slow-moving porcupine's only means of defense is its quills. The tips of the quills are covered with many tiny backward-facing barbs, which when imbedded; begin to expand from the victim's body heat. The victim's muscles contract, thus pulling the quills in even deeper. Porcupines do not shoot their quills, but they can swing their tails like clubs to embed their quills in the intruder. Here are some pointers for you and your dog should you encounter a porcupine:

1. Don't approach a porcupine; if it feels threatened, it can embed its quills very quickly.
2. Keep your dog under control; most dogs don't realize what's in store for them.
3. If your dog has the misfortune to encounter a porcupine, the only remedy is to pull the quills out.
4. Quills are easier to pull out if their ends are cut to release the air pressure. Then pull the quills out with pliers.
5. After much wailing (yours), disinfect wounds with hydrogen peroxide or an antiseptic. Allow your dog to lick his wounds; dogs have a healing agent in their saliva.
6. Or better yet, take your dog to the vet. It's kinder to you!

PROBLEMS AND BENIGN SOLUTIONS

Porcupines have been known to chew up shovel and broom handles, saddles, leather gloves, etc. looking for salt residues. So keep your tools and leather items locked up. Put a salt lick out as far from the house as possible for your wild creatures. This is not the equivalent of feeding.

If a porcupine has picked one of your favorite trees to gnaw on, spray it with a hose and use loud noises to get it to leave. Then enclose tree trunk with thin metal sheeting at least three feet up.

Prairie Dogs



PRAIRIE DOGS

The prairie dog gets its name from the barking cries they use as warnings to others in their prairie dog town. They are closely related to squirrels.

PHYSICAL APPEARANCE

Prairie dogs are pear shaped animals that stand upright with short tails and small ears. Their fur is a light speckled tan color with a white under-belly. Depending on the species, their tails are white or black tipped. They have yellow/orange eyes that give them good eyesight on sunny days. Adults are 17 inches in length and can weigh up to 2 pounds depending on the species.

SIGN AND SOUND

When you come upon a prairie dog town, you will see many prairie dogs standing erect, like little sentries, to get a better look at you. If you approach too close, they will bark an alarm and disappear down their holes into a deep maze of tunnels.

HABITAT

There are two species of prairie dog that live in New Mexico, splitting it down the middle. The black-tailed prairie dog lives in colonies that hold as many as 200 individuals and live on the open plains. The white-tailed prairie dog lives in smaller groups in the more mountainous, rocky areas of New Mexico.

FEEDING HABITS

Prairie dogs are vegetarians preferring grasses and forbs. It is the feeding habits of the prairie dog that has hurt its population growth. They have a tendency to over-graze the areas they inhabit. That brings them into conflict with ranchers and farmers. They have been extensively poisoned in the past, which has resulted in a very negative effect on the many predators that used these once plentiful animals for their food.

SOCIAL ORGANIZATION

The prairie dog has a very complex social organization. Black-tailed prairie dogs live in large clans called coterie. And several coterie may live together in a huge prairie dog town with hundreds of individuals using a complex tunneling system that can cover several hundred acres. These coterie generally do not interact with each other but will occasionally interbreed on the boundary separating them. White-tailed prairie dogs live a more sedate life within small family units.

Prairie dogs are very social animals, kissing and nuzzling in greeting and spend hours playing with each other. Unlike black-tailed prairie dogs, white-tailed prairie dogs hibernate from October to March.

After a gestation period of 30 days, a litter of 2 to 5 hairless pups are born in early spring.

PREDATION

In years past, the prairie dog was on top of the food chain for badgers, coyotes, foxes, bobcats, snakes, owls, hawks and eagles to name a few. The demise of prairie dog colonies has also brought the black-footed ferret close to extinction. Because of man's destruction of the prairie dog, a large portion of the wildlife mentioned above has been negatively affected.

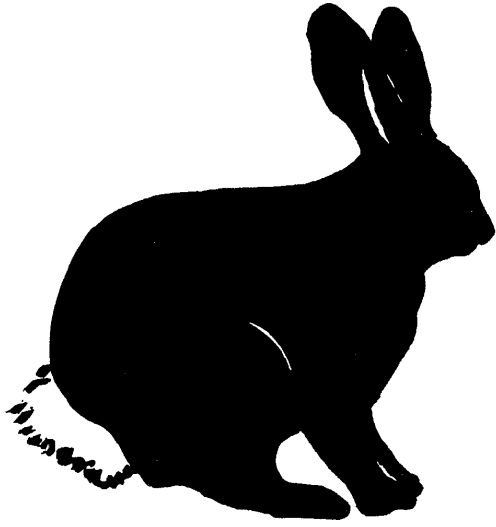
PROBLEMS AND SOLUTIONS

If you are fortunate to have a small prairie dog town on your property, we ask that you share your land with them. Nature and predators will keep them in control.

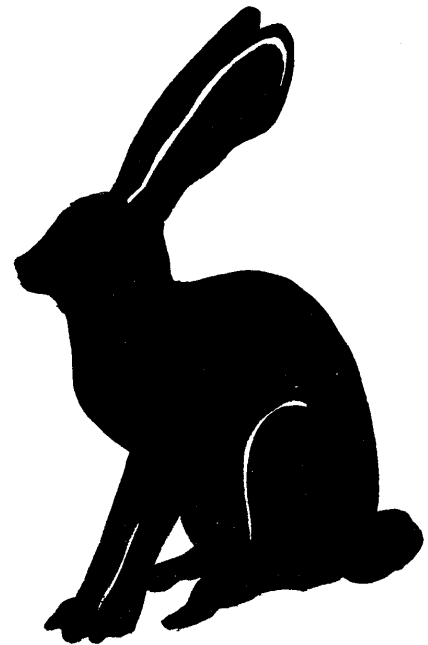
If a prairie dog falls into one of your window wells, simply prop a rough board in the window well so that the prairie dog can climb out. If this solution is not successful, use a shovel or fishing net to scoop the prairie dog out of the window well. Once it has been released, the prairie dog will usually return to its prairie dog colony.

Do not handle dead prairie dogs; they have fleas that have been known to carry bubonic plague.

For more information and help on prairie dogs, call Prairie Dog Pal's Yvonne Boudreaux at 286-1937.



Rabbits



RABBITS

The term “hare” and “rabbit” are often used interchangeably for the jack rabbit and the cottontail rabbit, although they are two separate species. Jack rabbits are from the hare family and cottontails are one of many species from the rabbit family.

PHYSICAL APPEARANCE

In both the jack rabbit and the cottontail rabbit, the female is larger than the male.

The eastern cottontail rabbit is the most commonly found rabbit in the Sandia and Manzano mountains. They are medium sized rabbits approximately 15 inches in length and weigh about 3 pounds. Cottontails have long ears tinged with pink. Their coloring is grayish brown with a characteristic patch of rust at the nape of the neck. Some cottontails will have a white spot on the forehead, located between its dark colored eyes. They have white underbellies and short, fluffy, white tails that look like cotton, hence the name cottontail.



The rare black-tailed jack rabbit of the East Mountains has a total length of 20 inches and weighs between 4 and 8 pounds. This rabbit has brownish gray fur ending with a black tail. The undersides of the chest, belly and tail are white. A jack rabbit's ears are very large with a pink tinge and it has greatly elongated hind legs. Its eyes are a light yellow with a dark pupil and a whitish eye ring.



SIGNS AND SOUNDS

A cottontail and jack rabbit's scat looks like small brown pellets. Rabbits are usually silent, making few sounds except when mating, fighting or in extreme danger. When captured, they will make a shrill high-pitched noise and can go into shock. A cottontail's tracks are distinct. Fore prints are round (1 inch wide) the hind prints are oblong (3-4 inches long). The jack rabbit's hind prints are narrow and including the fore prints, bigger.

HABITAT AND SHELTER

Habitat is chosen primarily for protection. The cottontail prefers oak woodlands, especially near a riparian area. Rabbits rarely locate far from their birthplace, covering a territory from a couple hundred square yards to three acres. However, for males, this habitat can increase to as much as 8 acres.

When cottontail rabbits are pursued by a predator they will not leave their established territory, but will run in circles until a known burrow can be found. Their burrows are typically dug by previous owners like badgers, gophers or ground squirrels. Once an area is chosen for a home base, a rabbit will groom it inch by inch, to establish pathways and boundaries. Jack rabbits build and rest in “forms” which are trampled down grassy areas above ground.

FEEDING HABITS

The diet of most rabbits is almost exclusively grass. In winter, when forage is poor, rabbits will eat twigs, tree bark and cactus. However, any of you gardeners can attest to the fact that whitetail rabbits also relish garden crops and assorted flowers from your flower garden. Jack rabbits are somewhat sociable and can be seen feeding in groups. They eat grass, a variety of plants, twigs, buds, fruits, roots and cultivated crops of clover, alfalfa and stacked hay. They seldom drink water, but get their needed moisture from their food.

Cottontails and jack rabbits are nocturnal and prefer to feed at night or early in the morning.

MATING

The cottontail is extremely prolific. It breeds from February to September giving birth to two to five litters a year. After a gestation period of about 4 weeks, the mother gives birth in a fur-lined nest in a hole in the ground. The litter will contain between four and six "kittens". Cottontail kittens are born blind, hairless, and helpless. The life span for a rabbit in the wild is approximately 1 year because of heavy predation and 10 years in captivity.

Jack rabbits breed year-round, and have between two and four litters. Their babies are called "leverets" and average between 2 and 5 per litter. The babies are born, fully haired, with eyes open. A jack rabbit will place her leverets in separate forms to avoid losing all of them to predators. She will feed them several times during the night and keep her distance during daylight to help avoid their detection to predators. Young jack rabbits are able to follow their mothers within a few minutes after birth. The life span of a hare is 6 years if not predated upon.

PREDATION

It seems all carnivores have the rabbit number one on their menu. The main predator of the jack rabbit is the coyote. The predators of the cottontail are many, including coyotes, foxes, owls, hawks, snakes, bobcats, skunks and raccoons. Since rabbits are known for being prolific, and since the habitat could never support such a large rabbit population, rabbits are considered to be very important in the food chain as a viable food supply for many predators.

Despite the numerous predators, rabbits do have some defense mechanisms. If danger is not close, the cottontail will often freeze to blend in with the surroundings. If danger is close, it will run to a burrow. Cottontails can run up to 20 mph and leap 10 feet, and also swim if necessary.

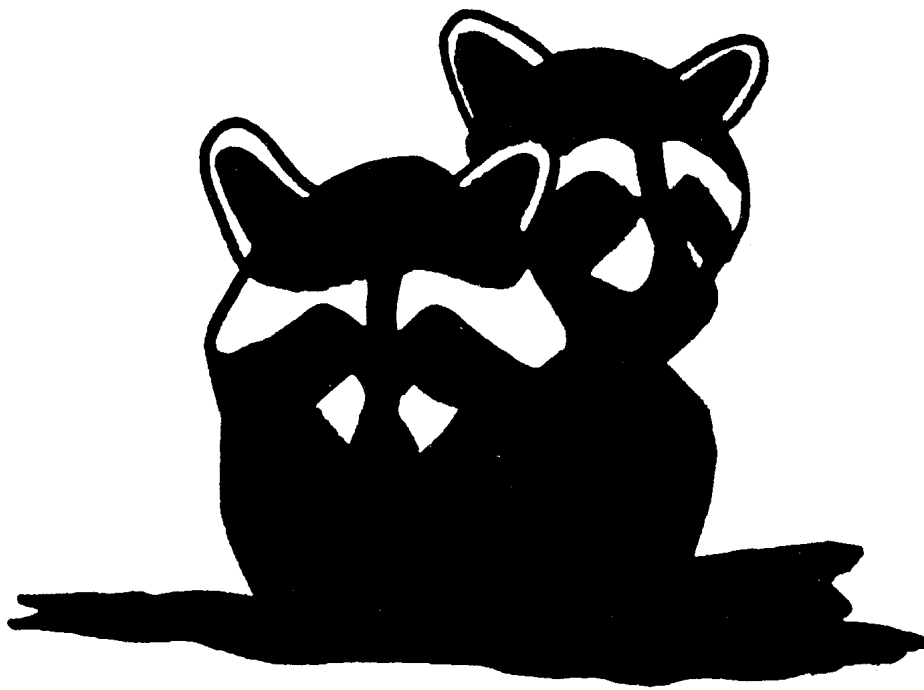
The jack rabbit, like the cottontail, when detecting an intruder, will remain still and blend into the surroundings. Or it will freeze; lay flat on the ground with its ears firmly pressed to its back. When it flees, it will bound away with long graceful leaps. It has a habit of leaping very high in the air every so often to see its pursuer. Jack rabbits can run 30 to 35 mph and leap up to 20 feet.

SAFETY

While rabbits/hares are not considered dangerous, there are some precautions you should take when handling them. You should never touch a live or dead rabbit/hare with your bare hands. Always wear protective gloves and if dead, use a shovel if possible. Rabbits can carry bubonic plague from fleas. They can also have tularemia, which is transmitted to humans through the skin.

PROBLEMS AND SOLUTIONS

1. Protect your flower garden by using the following mixture: Mix 1 tbsp. baby shampoo, 1 tbsp. ammonia into a 1-quart spray bottle of water. Spray on plants and blooms after each rain and watering (this really works!).
2. Protect garden plants with chicken wire mesh. Rabbits typically will not jump or dig under mesh. A 3-foot high barrier is sufficient. Placing dog hair or parts of a dog blanket around your garden can also protect gardens. The smell of dogs will cause the rabbit to look elsewhere for dinner.
3. Protect trees with chicken wire mesh or plastic tubing, about 3 feet in height. Make sure this is placed loosely around the tree to allow for growth.



Raccoons

RACCOONS

The raccoon that inhabits the Sandia and Manzano mountains is scientifically named *Procyon Lotor* (the washer) and belongs to the family of Procyonidae (those who came before dogs). Raccoons are curious and opportunistic creatures and will probably be the first wildlife you'll see around your home.

PHYSICAL APPEARANCE

Raccoons come in a variety of sizes, with the male usually larger than the female. But the average size of an adult is 3 to 3 1/2 feet long (including the tail) and they weigh 15 to 48 pounds. They have stout rounded bodies supported on strong thin legs and delicate looking feet, a rounded head with short nose and small ears. Raccoons have medium length gray-brown fur that is thicker in winter months in comparison to their summer coats. The bushy tail is medium length with five to seven alternating grayish-white and black rings ending with a black tip. But the distinctive dark face marking (a robber's mask) around the eyes are what give this rascal away.

SIGNS AND SOUNDS

Raccoon tracks are very distinctive. Adult hind print tracks look like the 4 1/2 to 5 inch handprints of a human child. Sounds vary from growls to a high-pitched cry. Since raccoons are opportunistic feeders, their scat is inconsistent but usually cylindrical in shape, about 2 inches long and in varied colors of black, reddish or bleached white.



HABITAT

Raccoons are very intelligent and because of human encroachment, have adapted to a wide variety of habitat from rural to urban. They prefer to be near a water source; lake, stream or pond but they have been known to settle for less. Because of our cold Sandia winters, our raccoons will go into torpor or mild hibernation for part of the winter. This is probably because their food sources are down during wintertime. They prefer dry, warm, dark den sites under tree stumps, in rock crevices, etc. They have a limited range of approximately one-mile square and do not fight for their territory except for a warning growl or nip or two. In fact, raccoons are very social animals and like to den together.

HUNTING AND FEEDING HABITS

Raccoons are omnivorous and opportunistic, which means they eat plants/ meat or anything they come upon during their nightly pursuit for food. They are nocturnal, but can occasionally be seen foraging during daylight hours, too. They eat frogs, fish, snails, worms, small mammals, birds, eggs, insects, assorted nuts, fruit and berries and an occasional tasty left-out bag of garbage or unattended chickens. Many people believe that raccoons dip their food in water before eating it in order to clean it. However, raccoons are really doing this so that they can more easily knead and tear the food to find the inedible parts, which are discarded before the remaining parts are eaten.

MATING

Mother raccoons produce one litter a year between April and May. The litter sizes number between 1 and 6 with an average of 4 kits after a gestation period of 2 months. The kits weigh 2 ounces and are blind and helpless at birth. They are weaned by late August. Raccoons are good mothers and will defend their babies with their razor sharp-teeth and are disinclined to shoo the baby away after the first summer. Raccoons have a life span of 10 to 13 years.

RACCOON PROBLEMS AND SOLUTIONS

Raccoons are very intelligent and curious. They can also be very destructive to bird feeders and can make a mess of your untended garbage, tear down woodpiles and leave their scat on rooftops, etc. Here are some hints to help you to learn to live with this delightful, often mischievous animal.

1. Secure garbage by keeping it in a sturdy can in a shed or garage.
2. Or secure garbage can tops with bungee cords or ropes tied to handles. If necessary, tie garbage can to stakes driven into ground to keep raccoons from turning cans over. Keep garbage cans clean with warm sudsy water and chlorine bleach. Put mothballs or ammonia soaked rags in bottom of garbage cans. This however, will not keep a bear from becoming habituated to your garbage. If you have bears, you should resort back to #1. Be aware that mothballs and ammonia are toxic to children and pets.
3. Put bird feeders on a wire between two high tree branches or feed only enough seed to last the day. Don't feed suet or peanut butter to birds in the summer months. Bring in hummingbird feeders at night or hang under house eave where raccoons/bears can't reach.
4. Don't leave pet food dishes or bags of pet food outdoors.
5. Lock pet doors at night or better yet, use a magnetic collar/ pet door opener. Raccoons can do an enormous amount of damage to the inside of a home.
6. Electrify chicken/fowl pens using an approved fence charger with alternating current. Be sure and check with the county inspector for guidelines and/or limitations.

RACCOONS UNDER DECK OR HOUSE

When a mother raccoon is ready to have her babies in April or May, she looks for a dark, dry, protected area. Here are some ideas to dissuade her from birthing under your deck of house:

1. Find the entrance to her den. Close off all other exits. Have material ready nearby to close the existing entrance.
2. Toss ammonia soaked rags or open-woven bags (lingerie bags) or tied socks full of moth balls into her space.

Both products are toxic, so keep away from children and pets. Raccoons have a keen sense of smell and this is solely used to encourage her to move to a more appropriate den site.

3. Put a mechanics light into the space and keep it lit night and day. Raccoons are nocturnal and the light should disturb her. Caution: Be careful not to put light near anything flammable. Check often.
4. Put a radio into the space and play it loudly night and day. This will probably irritate your neighbors, too!
5. Sprinkle a light coat of flour outside the one remaining entrance. After sunset, check for her tracks frequently to see if she has left the site. Be sure there are no kits in the den. Do not crawl under your house or deck to check. A mother raccoon defending her young can do you harm. You can probably hear the kits if there are any there. It is most important you take the time to investigate for sounds.
6. If you do hear the babies, leave the entrance open. They will follow their mother on her nightly forages at about 8 weeks and will be weaned by the end of August. Sprinkle flour again, and when the family has vacated for the evening, close the entrance with a sturdy piece of sheet metal, wood or heavy wire mesh.
7. If you hear noises after closing the entrance, remove the barrier to allow the remaining raccoons to escape.
8. As a last resort, you can call N. M. Wildlife Rescue at 344-2500 or NMG&F at 841-8881/476-8000 for advice and assistance in live trapping. But, remember, it's very hard on the animals and should be done humanely. Trapping should not be done during winter months, or while the kits are still in the den. They could become separated from their mother, which would effect their survival.

RACCOON ON THE ROOF, ATTIC OR CHIMNEY

Again, raccoons are looking for safe and dry nesting sites. And your roof, attic, or chimney might fill the bill.

1. Follow steps for under decks and houses and also follow the following tips:
2. Remove trees, tree limbs, trellises, etc., which give access to roof, attic and chimney.
3. Place a 24-inch cylinder of sheet metal around tree trunks at least three feet above ground to keep raccoons from jumping above the sheet metal and gaining access to roof, attic, or chimney.
4. Repair roof by replacing shingles and holes in the eaves.

5. If raccoons are nesting in your chimney, lower a bag of mothballs on a string or place a small container of ammonia at the base of the chimney so the fumes will spiral upward. Close fireplace doors or create a barrier to prevent raccoons from exiting through your house. Make sure all kits have left before securing the chimney cap. If they are too young to leave on their own, give the mother time to remove them to another den site. Patience usually pays off in these instances.
6. Cap chimneys with a commercial chimney cap or by securing sturdy wire mesh on top of chimney.

RACCOONS INSIDE HOUSE

Accessibility through pet doors or chimney.

1. If possible, close doors to other rooms of house. Open exit doors and windows to the outside. Leave the house and wait for the raccoon to find its way out.
2. If the raccoon has made itself at home, call Wildlife Rescue of New Mexico at 344-2500 or the New Mexico Game and Fish at 841-8881/476-8000 for assistance in humanely removing your unwanted visitor.

RACCOONS DIGGING IN GARDENS, FLOWER BEDS, LAWNS AND EATING FRUIT

If you have raccoon visitors at night digging and upturning plants and areas of the lawn, they are after the insects and grubs beneath the plants. They also relish grapes, corn and the fruit off your fruit trees. Here are some suggestions:

1. Build a sturdy garden fence and using an approved fence charger, electrify it with alternating current. Be sure to check with the county inspector for guidelines and/or limitations.
2. Sprinkle flowerbeds and lawns with cayenne pepper to discourage raccoons from digging for grubs.
3. Use a commercial, non-toxic product called Grub-Attack to eliminate your grubs.
4. Use bird netting over garden plants.
5. Use lights and loud noises until you can harvest crop.
6. Pick up fallen fruit. Wrap tree trunks with 24 inch of sheet metal at least three feet above ground, so raccoons can't climb trees. Better yet.... share with your wild friends.

RACCOONS IN CORN FIELDS

One of the raccoon's favorite foods is corn. The following can be used to deter raccoons from destroying your corn.

1. Put dog droppings around the base of each corn stalk.
2. Place crumpled newspapers between the cornrows.
3. Hang blinking Christmas lights among the stalks.
4. Cut the feet out of panty hose, spray the panty hose feet with perfume, and place them over the corn stalks.
5. Make the following solution, let it sit for 3-4 days, and spray on the stalks and on the ground around the stalks:

4 cups hot water
4 Tbsp ammonia
4 Tbsp hot chili pepper
4 garlic cloves

RACCOONS IN POOLS AND HOT TUBS

1. Cover and use tie downs for pools and hot tubs when nocturnal animals are about.

As the last resort you can contact Wildlife Rescue of New Mexico at 344-2500 or New Mexico Game and Fish at 841-8881/476-8000 to help live trap and relocate. In the Sandia and Manzano mountains it is inhumane to trap in the months between October and March. Because of winter conditions, raccoons are likely to die of exposure and starvation. In the summer months, be aware of females raising young ones that will be unable to survive without their mother. And remember, another raccoon will likely replace your trapped and relocated raccoon until you find the real solution to your wildlife problem.

HAVE THE BABIES BECOME ORPHANS?

If the kits cry continuously, with no quiet times between, when the mother would be feeding them, call Wildlife Rescue of New Mexico at 344-2500 or the N.M. Game and Fish at 841-8881/476-8000 to help you.

KEEP YOUR PETS' VACCINATIONS UP TO DATE

Raccoons have been known to have rabies (which they get from unvaccinated pets). However, there have been no reports of a rabid raccoon in the Sandias or Manzano mountains. The symptoms are the same as a rabid dog. If you see a raccoon acting strangely, keep it in sight and call the N. M. Game and Fish at 841-8881/476-8000 or Bernalillo Animal Control at 873-6706 immediately. Any wild animal bite that breaks the skin must be reported immediately to your physician. The wild animal should be captured, if possible, to be checked for rabies. Raccoons also can have fleas, canine and feline distemper and tuberculosis.

These are all reasons to keep children, pets and yourself away from wild animals. And most importantly, **DON'T FEED WILD ANIMALS**. There was a recent story of a Colorado man feeding raccoons on his roof every evening. He kept his barking dog in

until the raccoons were gone. One night after feeding the raccoons, he let his dog out as usual and a cougar that was preying on the raccoons instead attacked and carried his dog away. The dog was easier to take than a feisty raccoon. You can unknowingly draw in larger predating animals by feeding wildlife.

PREDATION

Humans using guns, traps or intentional poisoning, dog packs and cars kill raccoons. A full-grown adult male raccoon is a formidable fighter that larger predators prefer not to tangle with. Bobcats, coyote, cougar and black bear will predate young raccoons.

Seeing a raccoon is a wonderful treat; it is likely to be passing through searching for its nightly food. Raccoons are not considered aggressive unless cornered, mating or with young.



Ringtails

RINGTAILS

This creature is, without a doubt, one of the most beautiful and rare in the Sandia and Manzano mountains. The ringtail inhabits some areas of western and southwestern states.

PHYSICAL APPEARANCE

Ringtails are nocturnal by nature with enormous eyes and ears for night hunting. They have a catlike appearance, but are stockier with short stocky legs. Total body length is approximately 30 inches with a long full tail taking up half the total length, about 15 inches. The tail is the prominent feature of a ringtail, hence the name. The tail has 16 total alternating white and black rings that end with a black tip. Ringtails and raccoons can be distinguished from each other by the ringtail's smaller size, much longer tail, and absence of the black facemask. A ringtail has a delicate almost fox like face with pale/white rings around its eyes.

SIGNS AND SOUNDS

Ringtails try to avoid humans. You will see them running in front of your car lights at night. Or hearing thumps on your roof at night might tell you they are about. A ringtail's tracks resemble a cat's. It walks on its toes whereas the raccoon walks flat-footed. Its scat is elongated and cylindrical and depending on its food source different colors. If a ringtail is frightened or threatened, it may scream and secrete a very foul, musky smelling substance from its anal glands.



HABITAT AND SHELTER

They like rocky canyons or areas of rock exposure usually below 6,000 feet, but will occasionally den in someone's shed.

FEEDING HABITS

Ringtails are mainly carnivores (meat eaters) and are considered good hunters. They eat mice, wood rats, snakes, lizards, and centipedes, nesting birds and while in season, fruit, juniper berries, mistletoe and cacti. They are extremely good at hunting rodents and in the past, miners would place them in mines to control the mice.

BIRTH TO MATURITY

After a gestation period of 53 days, two to four young are born in April or May. The babies are born blind and helpless. They have white fuzzy hair and stubby tails. The male helps the female feed the young until they are ready to hunt on their own at four months. Ringtails live to 8 years in captivity.

PROBLEMS

You would be fortunate to have a family of ringtails living nearby. Their main food source is rodents and they would certainly keep the nearby rodent populations down for you. If, however, they are denning in a shed or under the deck, etc., here are some solutions:

1. Put a mechanic's light in den area and turn it on for 24 hours a day. Be careful to put light away from flammable material and check often.
2. Put a radio with volume turned up loud in den area for 24 hours a day.

If these don't work, refer to raccoon solutions.

Skunks



SKUNKS

The skunk, a member of the weasel family, is represented by four species in North America. The striped and hog-nose are the skunks that make the Sandia and Manzano mountains home. The striped skunk is the more commonly seen of the two.

PHYSICAL APPEARANCE

The striped skunk is characterized by two prominent lateral white stripes that run down its back ending in a white cap on its head and shoulders. Its tail is bushy, often with white fringe and a white tip. Its fur is otherwise jet black. The body of the striped skunk is about the size of a large house cat (up to 31 inches long and weighing between 6 to 14 pounds). The hog-nosed skunk's head, back and tail is white with the lower body black. It has an enlarged nose pad, hence the name. Hog-nosed skunks are slightly larger than striped skunk. All skunks have short legs, long bodies with bushy tails and pointed snouts with small ears and eyes. But the main thing that identifies a skunk is its dominant colors of stark black and white.

SIGNS AND SOUNDS

Odor is not always a reliable indicator of the presence or absence of skunks. Other animals that have been sprayed by skunks can move under a house and make owners mistakenly think skunks are present. Skunks use their sharp claws for digging up prey. You will see scratched up areas and small diggings of a foraging skunk. The hind prints (1-1/4 to 2 inches) of a skunk are long, narrow at the heel and broader at the front with 5 toes. Fore prints (1-3/4 inches) are slightly wider with 5 toes. Sometimes in wet habitat, the claw marks will show. All skunks waddle with the resulting back and front tracks not overlapping. Scat is varied depending on what the skunk is eating. It is usually dark, cylindrical and can be segmented.



HABITAT

Skunks will inhabit a wide variety of habitat, from mountains to desert and everywhere in between. But, they prefer clearings, pastures and open lands bordering forests. They feel safest living near thickets and timber fringes along streams. Skunks establish dens in hollow logs, beneath buildings and crevices in rocks. They will also den in other wildlife's abandoned burrows. As a last resort, they will dig their own dens. The normal home range of the skunk is 1/2 to 2 miles in diameter. Skunks may den together in winter for warmth, but generally are not sociable.

HUNTING AND FEEDING HABITS

Skunks are nocturnal in habit, rather deliberate and slow moving. Their means of defense have given them great confidence in defending themselves against other animals. Its only serious predator is the Great Horned Owl. Skunks are omnivores and will eat just about anything. In spring and summer, their preferred food is insects. Grasshoppers, beetles, and crickets are the insects most often taken. They will also eat fruits, eggs of ground nesting birds and varied vegetation. Field mice are regular and important items in the skunk diet, particularly in winter. Rats, young cottontail

rabbits, and other small mammals are taken when other food is scarce. Skunks are dormant for about a month during the coldest part of winter.

MATING

During the breeding season, an adult male will travel from 4 to 5 miles each night. Adult skunks breed in late winter. Yearling females (born in the preceding year) mate in late March. Gestation usually lasts 7 to 10 weeks. Older females give birth to their young during the first part of May, while yearling females have their young in early June. Younger females have smaller litters than older females. There is usually only one litter annually. Litters commonly consist of 4 to 7. Young skunks are born blind with fine hair clearly marked with their future black and white coat. They are weaned at approximately 6 to 7 weeks and will stay with their mother until fall. Both sexes are mature by the following spring. The age potential for a skunk is about 10 years but few live beyond 3 years in the wild.

PROBLEMS AND SOLUTIONS

Most skunk encounters occur in the fall when young skunks are searching for new dens. They are typically not aggressive and will not spray unless they are threatened. The sign to retreat is when a skunk stamps its feet and arches its tail over its back and turns its rump toward its perceived enemy. The main concern of having a skunk nearby is of course the odor and sometimes predation of chickens.

Here are some solutions to these problems:

1. Lights and sounds may provide temporary relief from skunk activity.
2. Keep skunks from denning under buildings by sealing off all foundation openings. Before covering the openings, make sure the skunk and her young ones have left the den by placing sifted flour or sand in front of the opening. This should be done before dusk. Check the area after dusk and if the track marks indicate the skunk has left the den, and then the openings may be sealed. Be sure and check for baby skunks before sealing. If the skunk is still under the building, a one-way door purchased from a hardware store can be installed so that the skunk can exit from under the building but cannot return. After the skunk has left the area, cover all openings with wire mesh, sheet metal, or concrete. Bury fencing 1 1/2 to 2 feet where skunks can gain access by digging.
3. Seal all ground level openings into poultry buildings and close doors at night.
4. Place beehives on 3 feet high stands. It may be necessary to install aluminum guards around the bases of hives if skunks attempt to climb the supports.
5. Properly dispose of garbage or other food sources that will attract skunks. Use tight fitting lids on garbage cans stored in sturdy metal sheds or garages.
6. Put out garbage on morning of pick-up only.
7. Do not feed pets or leave pet food outside. This will attract skunks.

8. Clean up debris such as lumber and junked cars, which can provide shelter for skunks. This may encourage them to use an area.
9. Mothballs or ammonia soaked rags placed around the access points or under buildings may also repel skunks, but these are only temporary measures. If this is attempted, the mothballs or ammonia soaked rags should be placed in panty hose, which have a string attached to them before they are thrown under the building. This way, the mothballs or rags can be retrieved after the skunk has left the area.
10. Remember, mothballs and ammonia can be caustic to pets and children.
11. To keep skunks out of gardens, we suggest either of the following solutions be prepared for the garden. The first solution should be mixed and then sprayed outside the garden:
 - 1-gallon water
 - 8 oz. castor oil
 - 8 oz. liquid detergent

This next solution can be sprayed on the garden. All of the ingredients should be mixed together, boiled for 20 minutes and then strained before being applied to the garden.

- 2 quarts water
- 1 onion
- 1 jalapeno pepper
- 1 Tbsp. cayenne pepper

12. Skunks are the largest carriers of rabies in the United States. One of the reasons this has occurred is unvaccinated pets. It is extremely important that all pets be vaccinated for rabies. If you encounter a skunk during the day that is acting peculiar or if the skunk is extremely aggressive, be careful, keep the skunk in sight and call Animal Control at 873-6706.

ODOR REMOVAL

Skunk scent is persistent and difficult to remove. Diluted solutions of ammonia, vinegar or tomato juice may be used to eliminate most of the odor from people, pets, or clothing. Clothing may also be soaked in weak solutions of household chlorine bleach or ammonia. Carbolic soap and water are best for washing skin.

If a pet is sprayed, the following solution can be used to bathe the pet. The solution should be thoroughly worked into the pet's fur for about 3 minutes. Make sure to avoid the pet's eyes while doing this. After being washed, the pet should then be thoroughly rinsed and the bath should be repeated if necessary. To make the solution, mix the following:

- 1 quart of 3% hydrogen peroxide
- ¼ cup baking soda

1 tsp. of liquid soap or shampoo

If a skunk sprays inside a building, use ventilation fans to speed up the process of odor dissipation. To eliminate skunk odor from the building, the walls can be washed down with diluted vinegar or apple cider. In addition, the following solution can be used to eliminate skunk odor from furniture, carpets or walls. Note: This solution should not be used on pets or people.

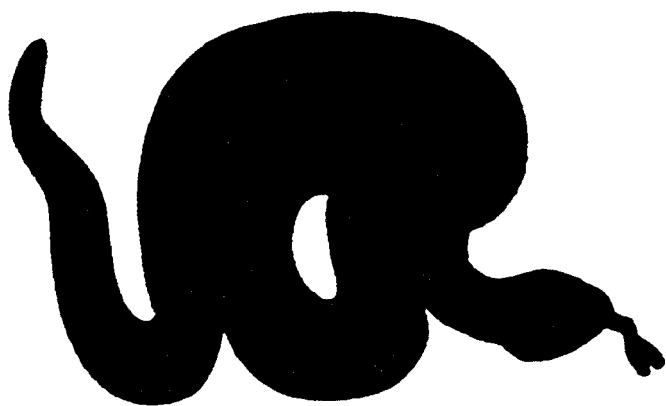
2 gallons warm water

1-cup bleach or vinegar

1 Tbsp. liquid soap or shampoo

Where musk has entered the eyes, severe burning and excessive tear flow may occur. Temporary blindness of 10 or 15 minutes may result. Rinse the eyes with water to speed recovery.

Snakes



SNAKES

There are a large variety of snakes in the Sandia and Manzano mountains. Most are non-venomous and are extremely beneficial to man because they help control the rodent population.

BULL SNAKE

The Bull Snake (or Gopher Snake) is the snake you will most likely encounter in the East Mountains. It is non-venomous and is sometimes mistaken for a rattlesnake. When threatened, it hisses, can puff up its cheeks, and even will sometimes shake the end of its tail to make itself look like a rattlesnake.

PHYSICAL APPEARANCE

The Bull Snake can get quite large. An adult can be between 3 to 8 feet long. Their coloration is tan or cream with blotches on the back that can be a variation of reddish-brown, black, brown or yellow. Its head, unlike a rattlesnake, is small and thumb like. Its eyes have round pupils, again unlike the rattlesnake. Its tail has no rattles and is tapered to a point.

HABITAT

Bull Snakes are found in all western states, from sea level to 10,000 feet. They are found in all areas of New Mexico. Their preferred refuge is a dark cool place; rodent burrows, under logs or stones and boards.

HUNTING AND FEEDING HABITS

Bull Snakes are most active at dusk and nighttime. They are wonderfully adaptable, from climbing trees to using their coils to clear away dirt from gopher mounds. They are constrictors, and eat mice, rats, gophers, ground squirrels, and birds.

PREDATION

Encountering a large bull snake can give you quite a start. But they are harmless and are very beneficial to have around because they are wonderful mousers. Their main predators are hawks, owls, and eagles.

It's important to stress that these wonderful creatures should never be killed. Their only defense is to imitate a rattlesnake. Although non-poisonous, if mistreated, their bite can be painful.

I had a wonderful encounter with a Bull Snake one summer day. I was watering down by my stream and the jaybirds were having a fit! Finally, one jay flew down and landed on the back of a 4-foot bull snake not 6 feet away from me. The snake leisurely slithered away, I got out of his way and went on with my watering, hoping he would come back for that pesky gopher I have.

RATTLESNAKES

Nothing can strike more fear into a person than hearing or seeing a rattlesnake. But, the chances of dying from the bite of a rattlesnake are less than 1 in 34 million people and that number includes snake handlers!

There are three species of rattlesnake in the East Mountain area; the black-tailed, western diamondback and the prairie.

PHYSICAL APPEARANCE

Rattlesnakes come in a variety of colors of tan, gray, or green with very distinctive dark, evenly spaced triangular designs on the back and sides. Their head has a triangular shape with the head wider than the neck (unlike the bull snake). The pupils are vertical slits. The rattle is tan colored, brittle and button-shaped ending in a blunt shape. A very young rattlesnake will sometimes have only one small button on the end of its tail. Adult prairie rattlesnakes are the smallest of the three pit vipers we have in the East Mountains and are between 2 to 3 feet long. Black tailed rattlesnakes range about 4 feet in length (and are considered the most benign in personality) and the western diamondback can get as big as 5 feet long. Rattlesnakes have stocky bodies compared to other snakes.

SIGNS AND SOUNDS

The most telling sign of a rattlesnake is when it lifts its tail and buzzes or rattles.

HABITAT

Rattlesnake habitats vary as the species vary, with some species overlapping. They live on prairies, forests, woodlands, and fields or wherever their prey is. In winter, they hibernate in large numbers in well-protected animal burrows, rocky crevices, or holes under tree stumps.

HUNTING AND FEEDING HABITS

Rattlesnakes are pit vipers and have heat sensory pits between the nose and eye. This enables them to hunt warm-blooded prey. They hunt at the cooler times of the day, dawn and dusk and in the warm summer nights. Rattlesnakes hunt weekly for mice, rats, prairie dogs, but will also feed on birds, eggs and lizards.

PREDATORS

Life isn't always easy for a rattlesnake. It has many predators including badgers, raccoons, bears, skunks, hawks, eagles, and humans.

SAFETY TIPS

Rattlesnakes are seldom aggressive but will defend themselves when they feel they are being preyed upon.

1. Keep a clean home site; remove woodpiles near the home, keep grass and weeds clipped. Do not leave pet food outside; snakes will prey upon rodents that come to feed.

2. Close all small openings into a house, including the door jams, walls, foundations, steps and porches. If a mouse can enter, so can a snake.
3. Be attentive when outdoors, rattlesnakes are naturally camouflaged.
4. Do not collect firewood at night.
5. Watch for snakes in early mornings and evenings when jogging.
6. Carry a flashlight or turn a light on when outdoors at night. Wear shoes.
7. Be especially careful around woodpiles, stacked lumber or brush.
8. Don't crawl under fences in dense grass or underbrush.
9. When outdoors, be careful where you put your feet, hands and while sitting down. Remember, a rattlesnake does not have to be coiled to strike in any direction. It can strike at 1/3 to 1/2 its body length.
10. Teach your children to leave all snakes alone and to be aware of snakes. Children are more likely to be bitten than adults.
11. If a rattlesnake is seen on a road or in the woods and poses no threat to you, do not attempt to kill or remove it. You risk being bitten. Most large snakes have a large range to hunt in and you will most probably never see this snake again.
12. However, if you have a rattlesnake near your home, you should call an expert to remove it. You can call the Rattlesnake Museum at 242-6569, New Mexico Game and Fish Department at 841-8881 or Animal Damage Control at 761-4640

IF YOU ARE BITTEN, STAY CALM AND SEEK MEDICAL ATTENTION IMMEDIATELY!

GARTER SNAKES

The garter snake is the most common reptile encountered by humans. And there are at least two dozen species of this non-poisonous snake in the United States.

PHYSICAL APPEARANCE

Garter snakes are slender and range from 2 to 4 feet long. They have a variety of coloration but almost always have distinctive coral or yellow striped on the sides or back. Double rows of black checks or red blotches are present between the stripes. They have a life span of 10 years.

HABITAT

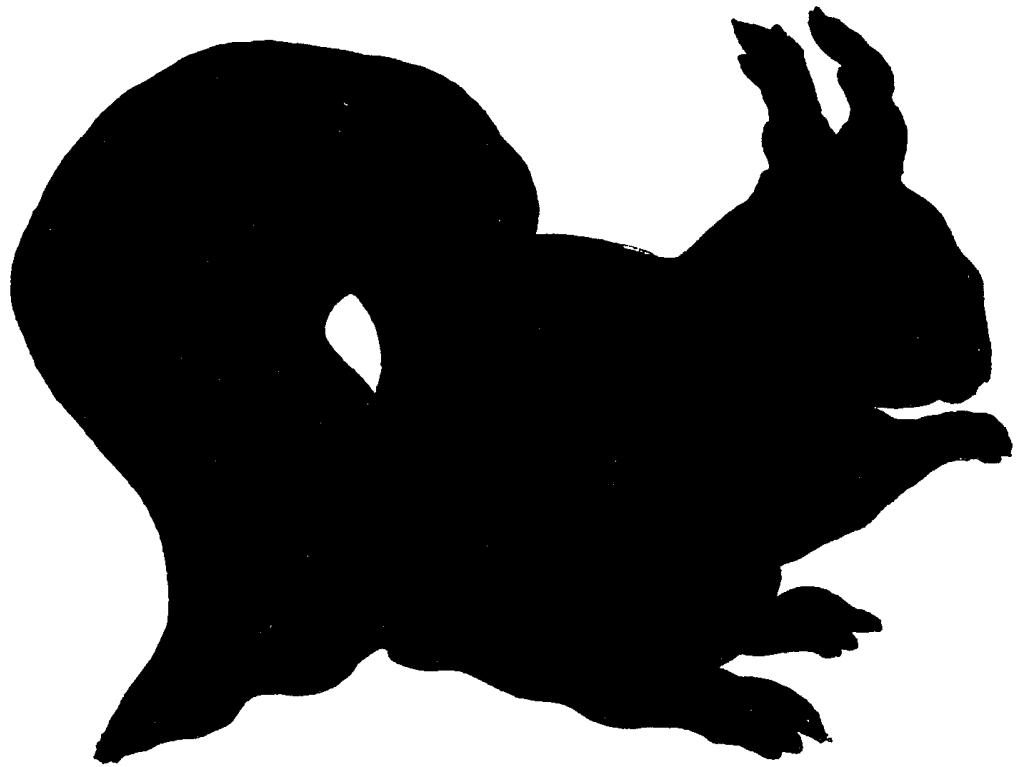
Garter snakes prefer habitat with water and are excellent swimmers. You will usually see them sunning themselves on a warm rock near water.

HUNTING AND FEEDING HABITS

Garter snakes are carnivorous like all species of snakes. They eat small mammals, tadpoles, slugs, snails and salamanders, etc.

DEFENSES

There is nothing for humans to fear from the garter snake but it does have a nasty defense. If grasped, it will coil around its tormentor and rub foul-smelling fecal matter from its anal scent glands.



Squirrels

SQUIRRELS

In the Sandia and Manzano Mountains, we have both tree squirrels and ground squirrels. The East Mountain's most beautiful tree squirrel (the Abert's squirrel) and the tiny red squirrel are discussed below. The most common ground squirrel (the rock squirrel) is also discussed along with solutions for potential problems.

ABERT'S SQUIRREL

We are fortunate to share the Sandia and Manzano mountains with the Abert's squirrel (*Sciurus aberti*). It is considered the most beautiful of all North American squirrels and is commonly called the tassel-eared squirrel.

PHYSICAL APPEARANCE

An average adult is nearly two feet long from the tip of its nose to the end of its tail, and the tail is nearly half this. This squirrel is dark gray with a reddish-brown patch on its back and shoulders, with white on its underbelly. Its luxurious full tail is dark on the top and white underneath. It holds its tail like a parasol over its back and head as it feeds on an overhead branch. Tasseled-eared squirrels grow one-inch long tufts on their ears during the winter months giving them their popular name.



HABITAT

Abert's squirrels live in the ponderosa forests of New Mexico. The Forest Service introduced a breeding pair of Abert's into the Sandia Mountains from near Cloudcroft, New Mexico in the 1940's.

FEEDING HABITS

This squirrel lives and nests in ponderosa pine. It feeds primarily on the buds and seeds of the ponderosa. Abert's squirrels also have a varied diet consisting of mushrooms, mistletoe, acorns, fruits, grasses, insects and even carrion. They have been seen eating antlers (apparently for the minerals) and mushrooms are an important source of moisture in their diet.

MATING

The Abert's squirrel may breed twice in a good year and have a litter of three to four young at a time. Mating occurs in late February and March, and the young are born in March or April. The young stay in the nest for about a month and are out foraging and on their own by June.

Nests are located in the branches of large ponderosa anywhere from 16 to 90 feet above the ground. Occasionally nests have been found in cavities in oaks and cottonwoods. Their nests are made of small pine branches and are one to three feet in diameter. The inside is lined with shredded dry grass, bark, or pilfered and shredded paper or cloth. The Abert's squirrel carries cut twigs in its mouth to the nest site and tamps them into place with its forefeet. The inner, softer material is added last. The

nests are usually on the south side of the pine, probably to take advantage of sunshine. The thickness of the walls depends on the weather, thin during summer and thicker during winter months.

This squirrel is, unfortunately, hunted.

RED SQUIRREL

The red squirrel is the smallest tree squirrel in New Mexico. It prefers high conifer forests. A few lucky east mountain residents that live in high mountain areas are fortunate to have this feisty, little squirrel for a neighbor.

PHYSICAL APPEARANCE

The red squirrel is named for its rusty red to grayish-red color. It has a black band separating the reddish body color from the white underside. The white underside fur extends to the face muzzle. Tail similar to body but outlined with a black band edged with white. In summer the coat is a duller color and has a more striking black band separating the red coat from the white underside. In winter, this little squirrel will sport large ear tufts. Its length including tail is approximately 12 inches and it weighs 5 to 8 ounces.

SIGNS AND SOUNDS

You will see large piles of pinecone remnants near the base of a tree. Their nests are made of shredded bark and assorted grasses. Tracks are tiny, just 1-½ inches long with 5 toe prints. Its call is a trill that carries long distances and includes chatters of various notes.



HABITAT

These squirrels live in high mountains with a mix of conifers, usually above 7,000 feet. Skiers at Sandia Crest will hear this little red squirrel fussing at them as they ride up the ski slope on the ski lift.

FEEDING HABITS

The red squirrel prefers green pinecones and pine seeds. They also will eat acorns, assorted tree seeds, berries, bird's eggs and young nesting birds. This squirrel will even eat the amanita mushroom, which is poisonous to man.

MATING

After mating in the late winter, a litter of 3 to 7 young are born in March or April. If it is a good year for forage, a second litter will be born in August or September. This squirrel is usually not hunted.

ROCK SQUIRREL

Rock squirrels, as the name suggests, are not tree dwellers but are one of New Mexico's many ground squirrel species. Commonly seen in the East Mountains, these squirrels have adapted to life on the ground and dig burrows and nests among rocks or hillsides. However, they will climb trees and bushes to find food. Rock squirrels are the number one carrier of the fleas that cause bubonic plague, so avoid contact if possible.

PHYSICAL APPEARANCE

Rock squirrels are fairly large, with a body about 11 inches long and a bushy tail about eight inches long. They are gray or brownish, with a dappled coat, and they have a buff-white or pink-buff underside. They have pretty faces with white markings around the eyes and small rounded ears. It is the largest ground squirrel in the state, and can often be seen stuffing its cheek pouches with seed from your bird feeder.

SIGNS AND SOUNDS

Their whistle is high-pitched, somewhat like the call of a marmot. The rock squirrel's alarm call consists of a short call and then a lower-pitched trill.

HABITAT

Rock squirrels (*Spermophilus variegatus*) prefer rocky areas, hence the name, but have also been found under cottonwood roots, hay sheds, under log cabins and houses, and beneath firewood stacks. They are found throughout the state, from low to high elevations, except in the far eastern plains. Whether they are true hibernators is a matter of debate. They are dormant for parts of the winter, but may be seen sunning themselves on a mild day. Certainly they are less active in the cold months. During the warmer months, they are diurnal – most active in early morning and late afternoon. They tend to stay in their burrows during midday hours.

FEEDING HABIT

Rock squirrels are opportunistic eaters and will eat whatever is in season. They will eat cactus fruit, mesquite seeds, agave blooms, juniper berries, and seeds from various plants, acorns, and fruit from orchards. They also eat many insects including crickets, caterpillars, and grasshoppers. Rock squirrels have been documented even eating a banner-tailed kangaroo rat and a robin.

MATING

Rock squirrels have one or two litters per year. They give birth to the first litter from March to June, depending on the climate they inhabit. The second litter is born in the August - September time frame. In general, a litter consists of 3 to 9 young and the young will nurse for about 2 months. The young will first appear above ground when they are about 2 months old.

SQUIRREL PROBLEMS AND SOLUTIONS

Squirrels are very attracted to bird feeders and can consume large amounts of bird feed. They can also damage wooden shakes and shingles and they can enter homes

and other structures. They are also fond of chewing on the wiring in a car. If you are having problems with ground squirrels, first and foremost do not feed them. Feeding them will attract other squirrels and because they are so well fed, their litter sizes will increase. The following are solutions to problems caused by squirrels.

SQUIRRELS EATING BIRD FOOD

To stop squirrels from eating bird food, try the following suggestions:

1. Place bird feeders on pipes or poles so that the feeders are out of reach of the squirrels.
2. To make the pipes more slippery, apply petroleum jelly to them.
3. Squirrel baffles for bird feeders can be purchased from garden stores or catalog companies. To make a squirrel baffle for a bird feeder pole, cut a hole in the bottom of a 2-3 liter plastic soda bottle and then place the pole through the two holes in the plastic bottle. The bottle can be covered with petroleum jelly if needed.
4. As a last resort, cayenne pepper can be added to the birdseed at a rate of 1 Tbsp. cayenne pepper to 1 gallon of birdseed. The birds will not be able to taste the cayenne pepper but the squirrels detest it.

SQUIRRELS EATING PLANTS

Rock squirrels rarely do significant damage to plants, so try to determine the real culprits. Because rock squirrels are active during the day, it is relatively easy to observe whether they are feeding on your garden or fruit trees. If the damage occurs at night, squirrels are probably not at fault. To stop squirrels from eating plants, try the following:

1. Place a frame made from chicken wire and boards over the plants to protect them.
2. The following can be sprayed on the plants:
Mixture of the following in 1 quart of water:
2 T. cayenne pepper
2 T. chili powder
2 Tbsp. Tabasco Sauce
1 Tbsp. Murphy's Oil Soap
Note: When making this mixture, make sure to wear gloves and do not get the cayenne pepper into your eyes.
3. To keep squirrels from digging up bulbs, place several moth balls next to the bulbs when you plant them. But remember, mothballs are caustic to pets and children.

SQUIRRELS CLIMBING TREES

To stop squirrels from climbing an isolated tree, try one of the following:

1. Put a 2-foot tall metal cylinder around the tree trunk.
2. Put a cone shaped tree guard around the tree trunk.

SQUIRRELS GETTING IN HOUSE

To stop squirrels from entering a building, do all of the following:

1. Remove tree branches that are near the building.
2. Screen attic vents and cover all possible entrances in roofs and other locations.
3. Place mothballs in the attic at a rate of 5 pounds/2000 cubic feet of air space. Be aware that this will discourage squirrels but the smell also very offensive to humans.

There are many other scenarios, too numerous to number, in which a squirrel may cause problems for a homeowner. Therefore, in the event of a problem, please contact BearWatch at 281-9282, Wildlife Rescue of New Mexico at 344-2500 or New Mexico Department of Game and Fish at 841-8881 for advice and assistance.

SAFETY

Caution is stressed when considering squirrels. Parasites reside in the fur of squirrels and use the rodent as a host environment. These parasites may carry diseases that can affect humans as well as animals such as hantavirus and the plague. In any case, never attempt to handle a squirrel.



Weasels

WEASELS

The North American long-tailed weasel is a resident of the Sandia and Manzano mountains. They belong to the Mustelidae family, which includes the badger and the skunk among others. Mustelidae use their anal musk glands to defend themselves or to mark their territories.

PHYSICAL APPEARANCE

The longed-tailed weasel is a small animal with a sleek body and long neck and tail. They have short legs and elongated, tapered heads with small eyes and ears. The male weighs about 10 ounces and is 17 inches in total length. The females are smaller in size. Their thick coat is reddish brown above with whitish under parts. The long graceful tail is tipped with black. The face can have a variety of white markings.

SIGNS AND SOUNDS

Weasels are primarily nocturnal animals but can occasionally be seen hunting during the day. They will leave caches of food hidden under logs, etc. to retrieve later. In the snow, their tracks are quite distinctive with a looping pattern with tail marks following. Their hindprints are $\frac{1}{4}$ inch wide and 1 inch long with 4 to 5 toe prints. They make a variety of sounds including hisses, screeches, purrs, and chatters. When threatened or excited, they will emit a strong musk from their anal glands. Scat is long and slender with a tapered end with bits of fur and bone that this hunter deposits on stumps and rocks.



HABITAT

They prefer open woodlands, bushy and rocky areas near water but will live in a variety of habitats. Their home is usually abandoned rodent burrows, rocky crevices or an old hollow log. Weasels are very territorial. They will defend from 12 to 40 acres.

HUNTING AND FEEDING HABITS

The weasel is a carnivore and lives and hunts alone. They are ferocious hunting machines, consuming up to 30 to 40 percent of their body weight in a single night. They may travel as far as three miles in one night to hunt for gophers, moles, mice, rats, rabbits, chipmunks, frogs, snakes, worms, small birds and eggs. They are capable of killing prey twice their size.

MATING

In April-May, four to eight young are born in a birthing chamber, lined with leaves and fur from prey. The babies are born hairless, blind and helpless. Young weasels are on their own by 8 weeks of age. Weasels have a relatively short life span of one to five years.

PREDATORS

The weasel's worst enemies are mostly from the sky, including: owls, hawks and eagles. House cats, foxes, snakes and humans also prey on weasels.

PROBLEMS AND SOLUTIONS

A weasel in a henhouse can create major havoc. In the wild, they eat only what they are able to kill. In a henhouse, they can go on a killing spree. You will be able to tell if a weasel has made a kill by looking at the carcass. Weasels kill by biting the base of the head or under the wing. They also like to eat the back of the head and the neck. They like eggs and will bite the top off and eat the contents.

1. If you live in a rural area and have chickens and fowl, it is important to have a well-made, sturdy henhouse. Plug all small holes; weasels can squeeze into a very small hole. If it appears predators are burrowing to get in, bury fine-mesh screening vertically several feet deep around the perimeter of the henhouse.
2. Weasels can be live trapped and moved at least 5 miles away. We suggest you contact Wildlife Rescue of New Mexico at 344-2500 or NMG&F at 841-8881/476-8000 for advice and help. But that still does not take care of your problem. A sturdy henhouse will keep other predators and weasels away in the future.

But one final good word about this feisty creature. They do an enormous service to man by ridding the area of a multitude of rodents that can bring hantavirus and bubonic plague into the area.

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