



Friends of Los Peñasquitos Canyon Preserve

About Nature: Mammals

Mammals depend on native habitats for their food, shelter, and reproductive needs. Some are secretive and rarely seen, and others can often be seen by small quiet groups of preserve visitors. Desert cottontails running across the trail. Mule deer in the meadows in the early afternoon. Bats can be heard and seen in the night sky in the preserves and adjacent neighborhoods. Five mammals are profiled in the following pages: bobcat, coyote, mule deer, desert cottontails, and bats.

Los Penasquitos canyon is an important wildlife corridor for deer, bobcats and other animals, connecting with other natural areas in Penasquitos estuary, side canyons, and the mountains east of Poway. Areas without such connections are considered fragmented or separated. Habitat fragmentation diminishes the use of natural areas by wildlife, as many need larger areas to gather food, reproduce, and migrate.

Trained observers can read the “sign” that animals are living in the canyon. These signs include tracks, evidence of browsed plants, scat (animal droppings), and photos taken by motion-detecting cameras. The non-profit San Diego Tracking Team trains and organizes volunteer trackers to survey wildlife, <https://www.sdt.org/>. These trackers have now been “citizen scientists” for more than 20 years. The information about animal movements has been used to evaluate the health of key species, the connectivity of open space areas.

List of mammals living in the preserves:

Peromyscus maniculatus	Deer mouse
Microtus californicus sanctidiegi	California vole
Neotoma fuscipes macrotis	Dusky-footed woodrat
Dipodomys sp.	Kangaroo rat
Netoma fuscipes macrotis	Dusky-footed woodrat
Thomomys bottae	Bott's pocket gopher
Spermophilus beechyi nudipes	California ground squirrel
Sylilagus audobonii	Desert cottontail
Sylvilagus bachmani	Brush rabbit
Didelphis virginii	Opossum (introduced)
Lepus californicus	Black-tailed hare
Mephitis mephitis holneri	Striped skunk
Procyon lotor psora	Raccoon
Mustela frenata latirostrata	Long-tailed weasel
Felis catus	Feral house cat (invasive)
Lynx rufus californicus	Bobcat
Puma concolor californicus	Mountain lion
Urocyon cinereoargenteus	Gray fox
Canis latrans clepticus	Coyote
Odocoileus hemionus fuliginata	Mule deer
(ten species of bats)	Bats

Bobcat, *Lynx rufus*

Family: Felidae

Description

The bobcat is one of three native cats in the Pacific region of the United States, along with the [mountain lion](#) and the Canadian lynx (Ingles 1965). It has a small head, heavy body, long legs and large, padded paws. Its fur is pale brown to reddish with black spots. The underparts are white. The tip of the tail is black above and white below. The white underside of the tail serves as a signal for its kittens to follow when the bobcat holds the tail curved up when hunting for food.

The bobcat's sharp-pointed ears are tipped with dark, inconspicuous tufts. Compared to the Canadian lynx, the bobcat has shorter hindlimbs, smaller feet, and shorter ear tufts. Bobcats live 10-12 years in the wild, and up to 25 years in a zoo.

Size: It's a relatively small member of the cat family-the head and body measuring between 60-100 cm (24-40 inches) long, and the tail adding about another 20 cm (5 inches). Adult females weigh 6-9 kg (13-20 lbs) and adult males can weigh 9-13 kg (20-29 lbs).

Range and Habitat

The bobcat ranges from southern Canada to southern Mexico, and can be found throughout most of the United States. It inhabits a wide range of habitats, from rimrock and chaparral areas of the western United States to the swamps and forests the eastern United States. The bobcat dens in rock crevices, hollow logs, and thick brush.

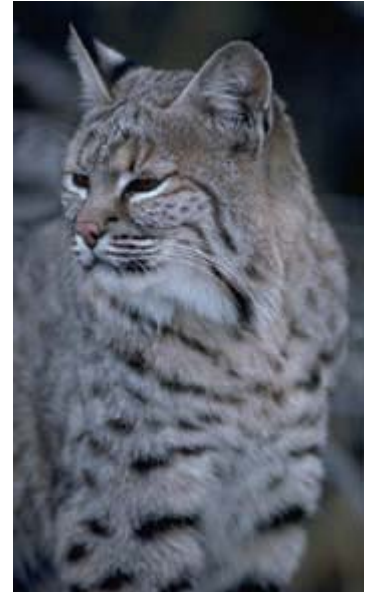
Natural History

Behavior: Mostly nocturnal, the bobcat is a solitary animal. It ranges usually within a two mile radius, but may wander as far as 25 to 50 miles. Like the mountain lion, it mates briefly and the females raise the cubs alone. The cubs leave their mother within a year to live on their own.

Reproduction: Mating normally occurs in spring. After a gestation period of 50-60 days, the kittens are born. Litters usually contain two kittens but may have as many as four. The kittens' eyes open after 10-11 days.

Prey: Bobcats are carnivores, and eat primarily mammals: rabbits, woodrats, squirrels, and mice. Like many predators, however, they are opportunistic and will eat almost anything including birds, reptiles and amphibians. They can leap up to 10 feet to catch an animal.

From <http://archive.sdnhm.org/fieldguide/mammals/lynx-ruf.html>. Text by Dr. Paisley Cato, and Photo courtesy Gerald and Buff Corsi, California Academy of Sciences



Coyote, *Canis latrans*

Family: Canidae

Range and Habitat

The coyote (*Canis latrans*) enjoys the most extensive natural range of any terrestrial mammal. These medium-sized canids are currently found across most of the continental United States and Canada, and southward to the Isthmus of Panama. There is significant variation in size between coyotes from different regions, [weighing up to 75 pounds for those from northern environs and average 25 pounds from Mexico].

The coyote is extremely adaptable and intelligent. Their opportunistic nature has allowed them to greatly increase their range and the variety of habitats they occupy in the past century. Their ability to thrive in close proximity to human activity makes it certain that coyotes will continue to be familiar animals in the American landscape.... The name coyote is a corruption of the ancient Aztec word coyotl, which means "barking dog."



Natural History

Coyotes are opportunistic predators and scavengers. When prey is scarce, coyotes will eliminate competing predators like foxes or bobcats. When hunting, coyotes often work in pairs to procure their prey. One animal will set off in pursuit of a rabbit or other prey item while the other animal cuts the prey off as it attempts to flee. This tactic is repeated until the prey animal becomes exhausted and is readily subdued. In addition to hunting rabbits and rodents, which comprise the majority of the coyotes' diet, they will consume whatever they can catch. Coyotes readily consume carrion, and also eat vegetable material and invertebrates. In general, coyotes are nocturnal and crepuscular, though it is not uncommon to see a coyote moving about during daylight hours, especially during cooler winter weather.

Coyotes originally evolved as denizens of open country and grasslands in the western part of North America. Originally, the coyote's range was limited by the presence of the larger and more powerful gray wolf in the east and north, and the red wolf (*Canis rufus*) in the south. The decline and eventual extirpation of gray and red wolf populations after the coming of European settlers allowed the adaptable coyotes to significantly expand their range and occupy more diverse habitats during the 20th century. Today, in addition to open country and grasslands, coyotes are found in forests, deserts, agricultural areas, and urban environments. Coyotes' extreme adaptability makes them tolerant of human activities and of human-caused habitat changes.

Breeding: Coyotes are, in general, monogamous. Pair bonds frequently last for many years, though not necessarily for life. Mating takes place in January and February when females ovulate. During pregnancy, which lasts 60 to 65 days, the male and female stay together and prepare a den for their coming pups. In late pregnancy, the male may hunt alone and bring food to the female. Coyote litters typically range in size from 5 to 10 pups. Pups are born blind, helpless, hairless, and toothless. By two weeks of age, pups have their eyes open and have begun teething. By their third week they are able to move around and leave the den with their parents. Coyote parents teach their pups basic hunting and survival skills during their first summer. By August or September, the litter will gradually begin to disperse as individual pups become independent. It is at this state that young coyotes are the most vulnerable. Many relatively inexperienced yearling coyotes fall prey to traps, poisons, shooting, and highway accidents. Those that survive can expect a lifespan of 12 to 15 years.

From <http://archive.sdnhm.org/fieldguide/mammals/cani-lat.html>, Text by Steven Joines, Photo credit: © Richard Herrmann

Mule Deer, *Odocoileus hemionus*

Family: Cervidae

Description

The mule deer is a dark gray-brown in color. It has a white tail with a black tip that it carries in the drooped position. It locates water with its keen sense of smell and uses its large feet to claw water out of the ground from as much as two feet deep. Instead of running, the mule deer jumps stiff-legged with all four feet hitting the ground at once. It can leap distances up to eight yards and reach speeds up to forty-five miles per hour. This style of leaping is called stotting. The mule deer's large ears are able to move constantly and independently from each other. The antlers, which begin growth in spring and are shed in December, branch to form two equal forks.

The mule deer is generally four to six-and-a-half feet in length and three to three-and-a-half feet high at the shoulder.

Range and Habitat

The mule deer lives throughout the western United States, including the deserts. It may migrate in response to rainfall.

Natural History

Mule deer mate in November and December with the antlered males fighting for possession of the females.

Mule deer have a multi-part stomach, which aids in the digestion of the plant matter they consume. Mule deer browse on fresh green leaves, twigs, grasses, herbs, weeds, blackberries, raspberries, vines, grapes, mistletoe, mushrooms, ferns, and cactus fruit.

Mule deer live for about ten years in the wild but have been known to live up to twenty-five years in captivity. Natural predators include coyotes, cougars, and bobcats.

Conservation Status

Federal, state, and provincial land- and wildlife-management agencies are working to acquire land designated as mule deer ranges.

From <http://archive.sdnhm.org/fieldguide/mammals/odoc-hem.html>, Text by Connie Gatlin

Photo credit: Dr. Lloyd Glenn Ingles



Note: About two dozen Southern mule deer make their home in the canyon. How do we know? Researchers from San Diego State University and trained volunteers from the San Diego Tracking Team have collected their droppings, called scat. They collect only fresh scat, from which they extract genetic information to identify individual deer. This is a clever way of following deer without touching or even seeing them. Then they can map where the individual deer are living, where they move, and whether they use the corridors that connect larger swaths of open space.

Raccoon, *Procyon lotor*

Family: Procyonidae

Procyon comes from the Greek words *pro* meaning 'before,' and *kyon* meaning 'dog.' The term refers to the close relationship of raccoons to the primitive carnivore stock that evolved into dogs and bears. *Lotor* is Latin for 'washer,' and refers to the raccoon's habit of appearing to "wash" food before eating it.

Description

The raccoon is a short, stout animal, with a pointed muzzle and small erect ears. Its legs are short and the feet are small. The forepaws in particular are long and slender. The raccoon's fur is thick and coarse, generally gray to black with brownish overtones above and light gray below. Its most easily recognized features are the black mask across its eyes, and the alternating black and gray strips that completely encircle its tail.

Size: The head and body length ranges from 46 to 71 cm (18-28 inches), with an additional 20-30 cm (8-12 inches) for the tail. A raccoon can weigh between 5.4 and 15.8 kg (12-35 pounds).



Range and Habitat

Range: The raccoon can be found throughout the United States, southern Canada, and Central and South America, with the exception of the desert regions. It survives easily in forests, marshes, prairies, cities and suburban areas.

Habitat: It's usually found along water courses or lakes that are near wooded areas or rock cliffs. A raccoon may den in caves or crevices along cliffs, in hollow trees, under rock piles, or even in unused buildings. While it may wander far from the water during the hunt, most of its life is spent near the water.

Natural History

Behavior: Raccoons are primarily nocturnal, but are sometimes seen during the day. Raccoons are adaptable and very curious animals. They will eat almost anything and use their keen sense of touch to search for food. They can manipulate objects easily with their hands, even prying off garbage can lids.

Reproduction: Raccoons may breed any time during the late fall into early spring. The gestation period lasts about two months, and the young are born between December and April. A litter may have two to seven young, with an average of four. The eyes open at about three weeks. Although the pups begin to forage and hunt with the mother within two months, she will care for them for almost a year.

Food: Raccoons feed mostly along streams and lakes, finding food under rocks and in the mud. Their diet includes crayfish, fish, lizards, frogs, small mammals, birds, eggs, various fruits, nuts and grains. Before eating, captive raccoons often appear to "wash" their food by dunking it in water, but the real reason for this behavior is not known.

From: <http://archive.sdnhm.org/fieldguide/mammals/proc-lot.html>, Text by Dr. Paisley Cato, Photo courtesy Dr. Lloyd Glenn Ingles, California Academy of Sciences



Desert Cottontail, *Sylvilagus auduboni*

Family: Leporidae

The species name "*auduboni*" honors John James Audubon, pioneer naturalist and famous painter of birds and mammals.

Description

The adult desert cottontail is light colored, tan to gray, with a yellowish tinge. The underside of the body is whitish. The desert cottontail often has an orange-brown throat patch. The tail is rounded and looks like a cotton ball. The desert cottontail is thirteen to seventeen inches long and weighs two to three pounds. The ears average three to four inches long, the hind feet three inches long. Females are larger than males.



Range and Habitat

The desert cottontail can be found throughout the Plains states from eastern Montana west to central Nevada and southern California and south to Baja California and northern mainland Mexico. Its habitat is dry grasslands and shrublands, riparian areas and pinyon-juniper woodlands.

Natural History

Desert cottontails are herbivores, and approximately 90% of their diet consists of grasses. However, they also feed on forbs, shrubs, cacti, domestic crops, and the bark of fruit trees. Cottontails receive most of their water from either the plants they eat or the dew that forms on the plants. The cottontail's front incisors are constantly growing and cut clean slices through the twigs or plants they eat at a forty-five-degree angle.

In California, the desert cottontail breeds year round. It can begin breeding when eighty days old. Its four or five litters per year can yield twenty to thirty young with the normal litter consisting of two to six young.

Natural predators of the desert cottontail include the golden and bald eagles, great horned owl, ferruginous hawk, badger, coyote, foxes, bobcat, and humans. Rattlesnakes prey upon the young. When alarmed, cottontails can run up to twenty miles per hour in a zigzag pattern to escape predators.

The average life span of the desert cottontail is two years, during which time the rabbits rarely stray from their place of birth.

From: <http://archive.sdnhm.org/fieldguide/mammals/sylv-aud.html> Text by Connie Gatlin

Photo credit: Loan Program Specimen, John Sanborn for SDNHM

Bats, *Myotis* sp.

Family: Vespertilionidae (plain-nosed bats)

Description

Twenty-three species of bats are currently known from San Diego County.

The California myotis (*Myotis californicus*) has a body length of 2 7/8 to 3 3/8 inches and a wingspan of about nine inches. It has long, dull fur, which is light to dark brown with a golden cast on the head, and paler fur below. The ears are of a medium length and dark brown or black. The mask, wings, and tail membrane are also dark brown or black.

The long-eared myotis (*Myotis evotis*) has a body length of 3 to 3 3/4 inches with long, shiny brown fur. It has long, narrow ears that are dark brown or black.

The fringed myotis (*Myotis thysanodes*) has a body length of 3 1/8 to 3 3/4 inches and a wingspan of about twelve inches. The fur is a reddishbrown to brown. The ears are of medium length and dark brown or black. The membrane between the legs and tail is covered with a fringe of hair.

Range and Habitat

The California myotis can be found across most of western North America. It lives in desert scrub, semi-arid regions, and rocky canyons. It roosts under tree bark or bridges and in buildings.

The fringed myotis is found in western North America from British Columbia south to Mexico, including most of California. It lives in oak and juniper forests and desert scrub. It roosts in caves, abandoned mines, and buildings.

Natural History

Myotis bats feed mostly on small insects and spiders. The California myotis sometimes hibernates in mineshafts. It forms small nursery colonies and bears a single young each year. Unlike the California Myotis, the fringed myotis roosts in colonies; its nursery colonies number up to several hundred individuals. It too bears a single young each year.

Conservation Status

Bat Conservation International is concerned that bats essential to the balance of nature and human economies are in alarming decline.

The [Bat Conservation International website](#) states, "We understand that the needs of wildlife must be balanced with the needs of humans and that increasing populations, poverty, and agricultural practices must be considered in meeting our goals. We also know that by safeguarding the future of bats and their habitats, we will help ensure the preservation of our planet's biodiversity, creating a healthier environment for both wildlife and people."

From <http://archive.sdnhm.org/fieldguide/mammals/myot-sp.html/> Text by Connie Gatlin

Photo credit: Dr. Lloyd Glenn Ingles

