

LONG-TAILED WEASEL

Mustela frenata

ALIAS:

- Ermine.

I.D.

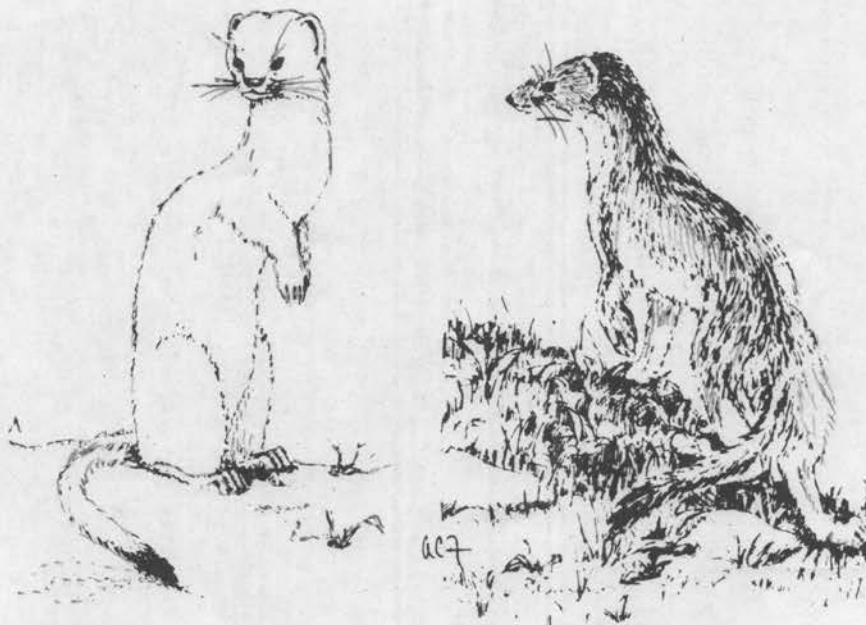
- Largest of the three North American weasels.
- Male is 18" long including the $6\frac{1}{2}$ " tail; females are generally shorter.
- The underparts are always white or whitish; the upper parts are some shade of brown in summer but, depending upon the area they inhabit, change to white or pale brown in winter.
- Black tip on tail (even in the winter).

HABITAT:

- Occurs only in the New World, from southern Canada to Peru.
- Found in a variety of habitats but prefers drier uplands of grasses, forest and rock.

FOOD:

- Regardless of size they are all vicious predators.
- Seldom interested in plants as foods but commonly taking rabbits, mice, squirrels, birds, bird eggs, and snakes.



HABITS:

- Nests are made from grasses and fur (mouse fur) and are placed in hollow logs, rock piles or abandoned ground squirrel dens.
- Home range 30-40 acres with 15-20 individuals per square mile.

LIFE CYCLE:

- Mating season is in July or Aug.
- 5-8 young are born in April or May.

A-15
Fact Sheets for Selected Mammals of CRMO
prepared by: Mark Herberger (employee)
1981

continued...

PRESENT STATUS: - Weasels are common in the Monument but with some confusion on whether they are the short-tailed or the long-tailed. Judging from records and references, those sighted and occurring here are most likely the long-tailed weasels.

INTERESTING FACTS: - The long-tailed weasel has two annual molts, one in the spring and the other in the autumn, both of which are stimulated by photoperiodism (the amount of day/night during the 24 hour cycle), but color changes are directed by heredity.

- Mustela frenata is highly specialized as a predator:
It kills with speed and strenght a wide variety of animals, including some much larger than itself;
its teeth are adapted for a diet of flesh, being second only to that of the cat family;
a single individual can consume up to 1,300 mice annually.



In the United States, long-tailed weasels that inhabit the area shown as a black band on the map, molt into either brown or white winter coats. Long-tailed weasels north and east of this band molt into white winter coats; south and west of the band, they molt into brown winter coats.

MULE DEER

As of 1980 - needs to be revised according to research Odocoileus hemionus

ALIAS:

- Mulie, Desert deer, Mountain mule, Grey Ghost.

I.D.

- 3-4 feet high at shoulder.
- Males weigh 100-400 lbs; females are smaller.
- Reddish color in summer, turning blue-grey in winter.
- Large "mule-like" ears.
- White rump patch with a black-tipped tail.
- Gait is a stiff-legged bound.



HABITAT:

- Occupy a wide variety of habitats in western North America from Mexico to Canada.
- They frequent areas of rugged terrain that support open forests and broken brushlands where good browse exists.
- Here in the Monument, about 80% of the deer live in the north section with the other 20% surviving in the southern portion.

FOOD:

- Herbivorous.
- Most mulies are browse animals eating leaves, buds and tender shoots of green plants.
- Here, in the summer, they prefer serviceberry, prairie grasses and wild onions. In the fall they seek out bitterbrush, snowberry and cherry. Their winter diet centers around sagebrush and some of the conifers.
- Foods eaten change seasonally and geographically in response to relative amount and taste.
- Deer tend to select the best available food and usually take a variety. (Some biologists feel that the animals are capable of "sensing" the chemical content and quality of different plant species, and therefore, select a varied diet in order to provide for balanced nutrition.)



LIFE CYCLE:

- Females can breed at 1½ years old.
- Gestation is about 7 months.
- Fawns are usually born in early June.
- Can live up to 16 years in the wild but 9 years is about the average.

continued....

HABITS:

- Most active in the mornings, evenings and on moonlit nights.
- Occur singly or in small groups, sometimes herding in the winter.
- Males shed their antlers in Jan.-Feb.
- A large percentage of the CRMO herd migrate to the southern, drier portion of the park in times of available moisture and fair weather but travel north again in the heat of summer and severity of winter - sort of an accordion effect - During these travels, the mule deer follow the many "deer trails" which criss-cross the lava flows and cinder cones.

HISTORY:

- By the end of the 19th century, mule deer populations in western America had been reduced to one-tenth their former size. Strict new game laws combined with the establishment of wildlife refuges and National Parks brought their numbers slowly upward.

PRESENT STATUS:

- Today mule populations are generally stable, though the number of deer in some areas is declining because of habitat destruction.
- They are considered to be the most important big game species in the West.
- U.S. population estimates: 2,250,000.
- CRMO population estimates: 350-400.

INTERESTING FACTS:

- Nutrition influences many activities and physiological responses in the deer, especially female health, pregnancy, fawn development and winter survival. The physical condition of the mother is very important to fawns since it affects not only their size and health at birth but also their growth through the first year. Also, nutrition influences breeding age and pregnancy rates of yearlings and two-year-old females.
- Depending upon environmental conditions (on the average), most yearling does conceive single fawns but older does usually carry twins.
- 2 segments of a deer herd suffer most during the critical winter period - fawns and adult males. Adult bucks suffer because they enter winter in poor condition due to the rigors of the autumn rut. Fawns are under stress because they require better nutrition and are not able to compete with adults for the limited supply. It is not uncommon to lose half of the year's fawn crop and many adult males during winter without losing a noticeable number of adult does.

MULE DEER: Caught in the coal crunch

Population:

2,250,000* (only scattered herds in 1900)

Habitat:

Varies from desert to mountainous. Some migration occurs from high elevations to lowlands

Special Problems:

The mule deer is less adaptable than the whitetail, and habitat is threatened by mushrooming demands on western land

Outlook:

Uncertain. In recent years, there has been a general decline in population. This may continue, although there are some signs that losses are tapering off. For example, northwest Colorado had a marked increase in mule deer numbers in 1978, following a four-year decline.

*Source: Sidney Wilcox, annual survey of state wildlife agencies

- No upper incisors but back grinding teeth predominate.
- Typical 4-chambered stomach like other ruminants.
- Unguligrade (walk on "finger-nails" known as hoofs)
- Susceptible to internal parasites and outbreaks of hoof & mouth diseases.



YELLOW-BELLIED MARMOT

Marmota flaviventris

ALIAS:

- Rockchuck, Ground Hog, Western Woodchuck.

I.D.

- Large, heavy bodied rodent with a yellowish-brown color and black & white facial markings.
- 14-19 inches in length with a 4-9 inch tail.
- 5-10 lbs.
- Largest Idaho Squirrel.

HABITAT:

- Commonly found near rocky situations:
talus slopes and rockslides in mountain habitats;
broken lava flows and spatter areas in monument.
- Found in every western state except Texas.

FOOD:

- Seldom forages far from the safety of their rocky burrows.
- Feeds on many grasses and succulent plants.
- Relishes alfalfa.
- Also takes some fruits and insects.

HABITS:

- Chiefly diurnal.
- Den or burrow is found near a large boulder which is used as a lookout post. One member within a family group acts as a sentinel and gives off a shrill whistle in case of danger.
- True hibernators.

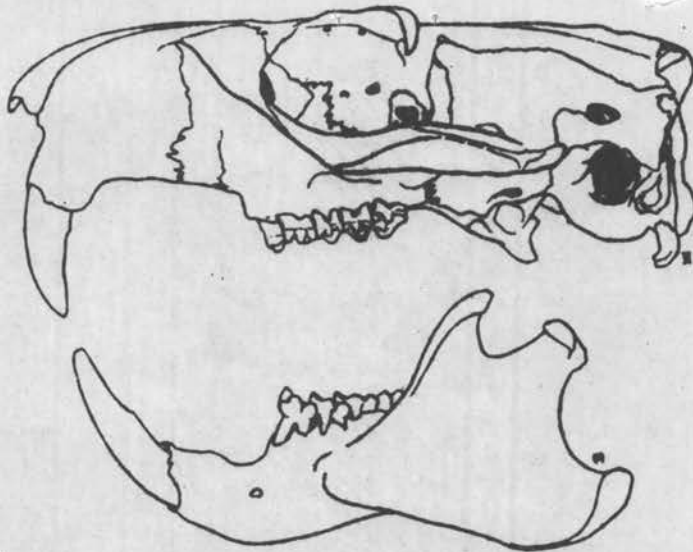


LIFE CYCLE:

- 3-6 young are born in the spring just after hibernation.
- Emerge from the den at about 30 days.



continued....



STATUS:

- Very common and abundant around rocky lava flows where there is sufficient green vegetation.
- Can become a pest in agricultural areas.

INTERESTING

- FACTS:**
- During hibernation the marmot undergoes profound metabolic and physiological changes to make their long winter sleep possible:
 - breathing becomes slow and irregular;
 - heartbeat drops from 80 bpm to 4;
 - blood pressure falls;
 - body temperature, which is normal at 98.7°, drops to 37 degrees;
 - many endocrine glands stop functioning.
 - Can go through a similar process in the summer (called a state of estivation) to escape periods of heat and/or drought.
 - Like all rodents, they have continually growing front incisors. These teeth are usually kept at a practical length by constant gnawing but in some cases, upper and lower contact isn't made. When this happens, the animal will go through a slow death by starvation or when the erratic teeth begin to pierce the skull.
 - Capable of quick speeds (10 mph) over rough terrain.
 - Some individuals have been found positive for the agents of plague, spotted fever and tularemia.
 - Become the diet for bobcats, coyotes and especially, golden eagles.

RED SQUIRREL

Tamiasciurus hudsonicus



ALLIAS:

- Pine squirrel, Spruce squirrel, Chickaree.

I.D.

- The basic body color is reddish-grey with lighter, whitish underparts and a heavily-furred, dark tail.
- Adults weigh about half a pound with their head, body and tail measuring almost a foot long.
- Idaho has three races of red squirrels with richardsoni occupying in the central part of the state.

HABITAT:

- The red squirrel occurs strictly in coniferous forests, especially pine, fir and spruce stands throughout most western mountain ranges.
- The nest is usually constructed of twigs and leaves, high in a pine or fir tree, and placed near the trunk.

FOOD:

- A sure sign of red squirrel habitat is the "midden" - a large pile of pine cone stalks, seeds, buds and other edible items, usually located near the center of a squirrel's territory.
- Seeds are their favorite, but they will eat almost anything; insects (especially beetles), berries, fungi, larvae and even maple syrup.

HABITS:

- These animals spend much time on the ground foraging, but are much more at home in trees where they jump from branch to branch and climb along the trunks with graceful ease.

continued.....

- Individuals remain close to their nests and it has been estimated that the home range of this squirrel may average two and a half acres.
- Rarely silent, they chatter constantly and often scold intruders.
- Hibernation is reduced to a series of resting periods during severe weather, which times they use the stored provisions cached the previous fall and summer.

LIFE CYCLE:

- Breeding occurs during March and July with litters born in April and in late summer.
- 4-5 young.
- May live up to ten years.

PRESENT STATUS:

- The distribution of this typically boreal mammal coincides closely with the distribution of coniferous forests within Idaho and the monument.
- Here at CRMO, they frequent the Douglas fir stands and certain areas of Limber pine like Devil's Orchard and North Crater.

INTERESTING FACTS:

- The economic value of this squirrel as a seed planter has won it recognition as being beneficial in forest reproduction. Its seed planting may outweigh its consumption of tree seeds for food.
- Like all other rodents, these tree squirrels have a single pair of upper and lower incisors - teeth adapted to cutting. Incisors can grasp, hold and pierce objects, but most commonly the teeth are used to gnaw food.
- Squirrels are members of the Family Sciuridae - meaning "Shadow-tail."



GOLDEN-MANTLED GROUND SQUIRREL

Spermophilus lateralis

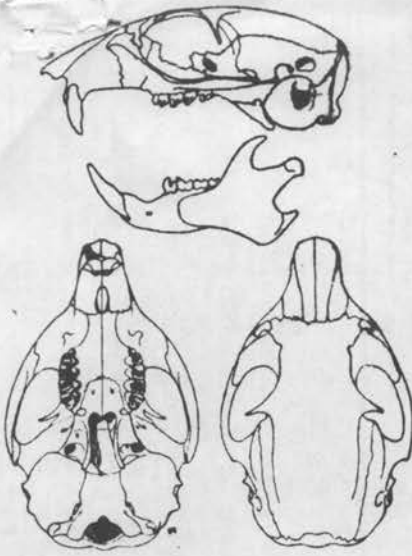
- ALIAS: - Golden chipmunk, Calico squirrel, Sage rat, "big chipmunk".
- I.D. - Chipmunk-like ground squirrel with conspicuous white stripe, bordered by two black stripes on the sides but not extending through the head.
- The shoulders and head are a rich hazle brown to yellowish with a narrow white line above and below the eye.



- HABITAT: - The golden-mantled ground squirrel occurs over much of the Gem State, occupying rocky sparsely-timbered areas.
- The den is a shallow, primitive burrow usually no more than 2 feet long.
- Particularly abundant and familiar in campgrounds and picnic spots in the national parks.
- FOOD: - Almost anything edible!
- It consumes large quantities of fruit and (especially here) the limber pine seeds.
- In summer, feeds on penstemon and bitterbrush.
- Relishes grasshoppers, ants, beetles, flies, and camper handouts.
- HABITS: - Their general habits are similar to the chipmunks.
- Prefers to burrow under rocks with the entrance between two large boulders to prevent predators from entering it.
- Spends much time "sunning" itself.
- Stores food in underground caches.
- Becomes very fat during Aug. and by the middle of Sept. will have entered hibernation, which lasts until late March or April.



continued...



LIFE CYCLE:

- 2-8 young are born in early spring.

PRESENT STATUS:

- Very common throughout the area with populations at about 2-5 per acre.
- More common in the campground area.

- INTERESTING FACTS:**
- The ground squirrels feed on the limber pine seeds and are capable of climbing the trees but being opportunists, they usually wait for a chipmunk to climb the pines and unfasten the cones. When the pine cones fall, the ground squirrel runs up and steals them away.
 - The voice is a characteristic chirp and rapid tongue clicking combined with nervous flicks of the tail.
 - Enemies of the ground squirrel include snakes, hawks, weasels, badgers and coyotes.
 - During hibernation their body temperatures drop to 40 degrees and their heartbeat slows to 5 beats per minute.



GOLDEN-MANTLED
GROUND SQUIRREL

YELLOW-PINE CHIPMUNK

Eutamias amoenus

- ALIAS: - "Small ground squirrel"
- I.D. - Brightly-colored chipmunk with sharply contrasting light and dark stripes on its upper sides and continuing through the face.
- Of the four varieties in Idaho, E. a. cratericus is the usual one found at CRMO.
- HABITAT: - Many different areas including semi-open forests, clearings, rocky places, brushy habitats, and campgrounds.
- The nest is usually placed at the end of a short burrow or in a small crevice in rocks.



- FOOD: - Limber pine seeds, bitterbrush seeds, other vegetative material and some insects make up most of their diet.
- Frequent camper handouts but as with most wild animals, serious problems can result with this unnatural food supply; especially nutrition deficiencies and adverse conditioning.
- The chipmunks have internal cheek pouches where they carry seeds for further use.
- HABITS: - In late September and early October they begin storing food in the den, usually covering over the cache with a layer of grass.
- They do not hibernate but during bad weather they can go into a state of torpor, awakening every now and then to feed from their cache.
- This species is more of a tree climber than are other chipmunks.
- Strictly diurnal.



LIFE CYCLE:

- Mating is done in April with the young born some 30-40 days later.
- 5-7 young/litter.
- Preyed upon by most predators but weasels and snakes are their greatest enemies as they can follow them into the chipmunks' burrows.

PRESENT STATUS:

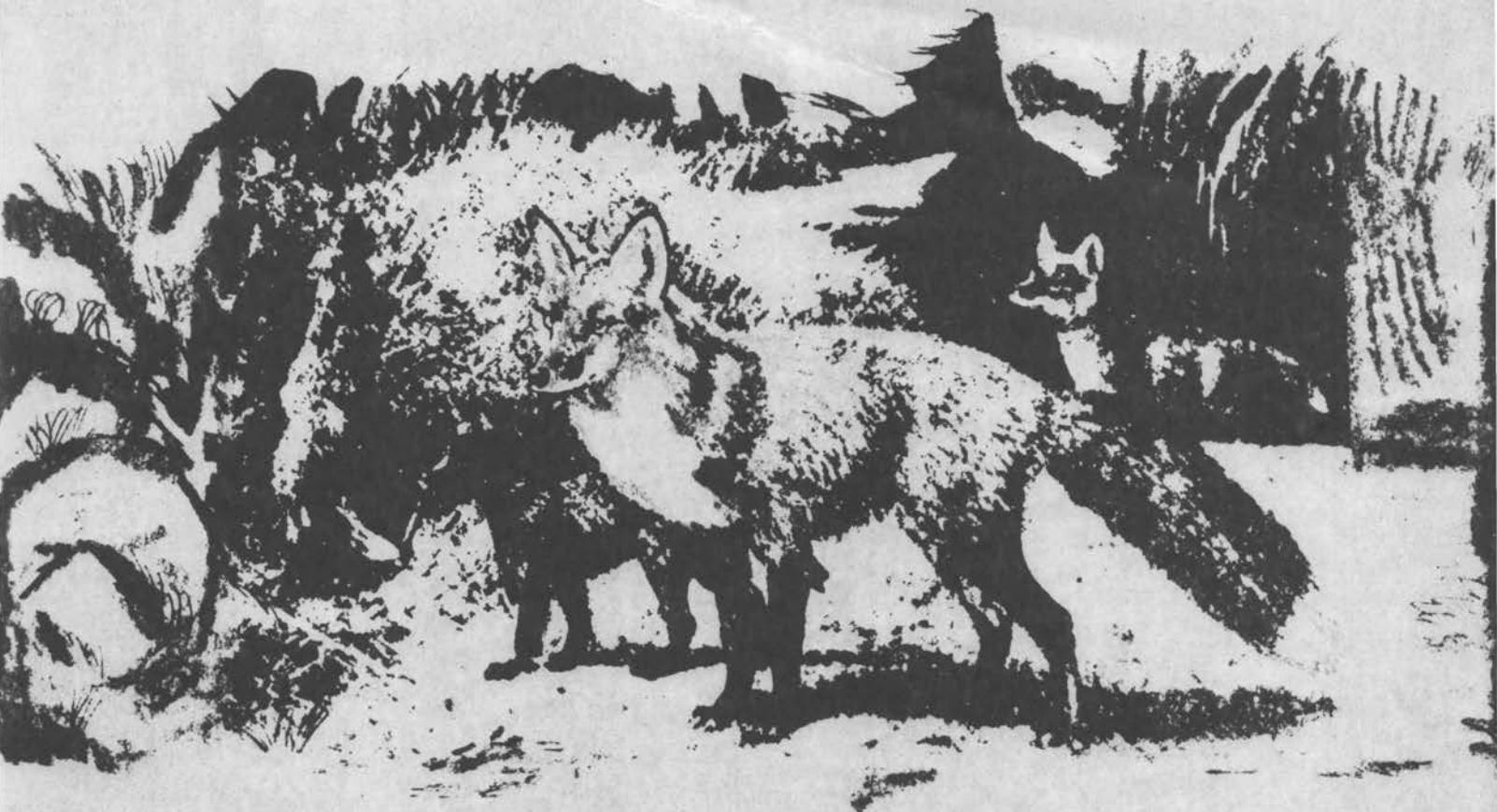
- 2nd. in abundance only to deer mice.
- Surviving in most all habitats and communities here at CRMO.

INTERESTING FACTS:

- Their attractiveness as a part of wild fauna, their confiding and enthusiastic ways, and their contribution to the food base of carnivores, makes them a valuable part of the natural scene.
- The young appear some six weeks after birth and look like miniature adults with a thinner fur and duller color pattern. They will retain this pattern until the spring molt of the 2nd. year.
- Commonly afflicted with ectoparasites; one of them being the Rocky Mt. spotted fever tick.

RED FOX

Vulpes vulpes



- ALIAS: - Cross fox, Colored fox, Reynard.
- I.D. - 3-3½ feet long weighing 5-15 lbs.
- Basic fur is rusty-orange with light-colored underparts and black feet, and a white-tipped tail. Color variations include silver, black and brownish-yellow.
- Triangular ears.
- HABITAT: - Found in a variety of habitats all across America, Canada and Alaska.
- Includes forests, farmlands, brushy lowlands, meadows and prairies.
- Rocky areas for dens are an important need.
- FOOD: - Omnivorous.
- Feeds mainly on mice and other small rodents.
- Rabbits are a staple where available.
- Also takes birds, grasshoppers, reptiles and carrion.
- Fleshy fruits and seeds average about ¼ of the summer and fall diet.
- HABITS: - Most active at night, early mornings and late evenings but can be active during the day.
- Home range is up to 2 square miles but often travels greater distances, especially in the winter.
- Usually has one or more spare dens so pups may be moved on short notice.

continued...

LIFE CYCLE:

- Mating season is from Jan.-Feb.
- 51 days gestation.
- 4-9 young born in March- April.
- Pups are brown with white tip on tail and remain in the den for about a month.
- The young leave their parents in the fall.

HISTORY:

- Vulpes vulpes is one of the best-known characters in history and legend, for its combination of beauty and cunning has attracted the attention of artists, poets, naturalists and hunters.
- Red foxes have always been found in the mountainous parts of the Gem State but were previously unknown from the Snake River Plain.



PRESENT STATUS:

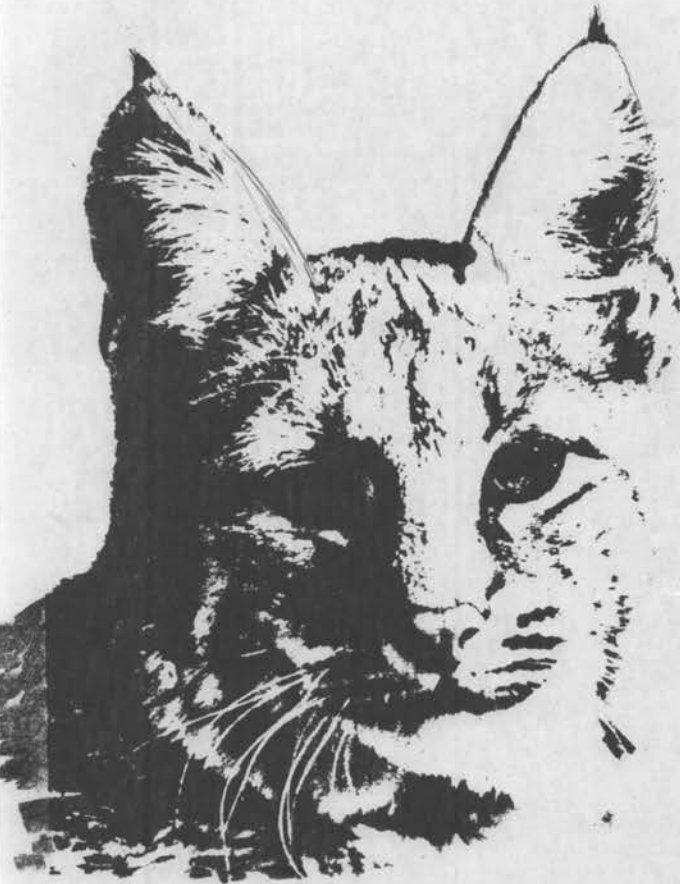
- Since 1960, the red fox has been increasing in density and moving onto the plain.
- There have been recent sightings of him at CRMO and biologists believe that the fox will soon become a permanent resident here.

INTERESTING FACTS: The adult male takes on an active role in raising the young; supplying his mate and pups with food, care and training.

- Male is called a dog; female is called a vixen.
- The red fox has a variety of calls, described as squalling, screaming, and barking.
- Although foxes use dens for reproduction, they prefer to remain in the open, even during heavy snows. These animals are protected from the winter cold by a fine fur coat and by their bushy tails which are used as wraps.
- They often cache unused food or prey when it is not immediately needed.
- Fox can act as a natural control on destructive rodents and provide good sport for hunters and even for trappers. In certain areas though, they can become a pest since they are able to take game animals, as well as poultry and eggs, song birds and young sheep.
- In some states, the fox becomes prey for predatory birds like the golden eagle and other predators such as lynx and bobcat.



BOBCAT



Lynx rufus

ALIAS:

- Wildcat, Bob-tailed cat.

I.D.

- Resembles a large, spotted housecat being $2\frac{1}{2}$ -3 feet long.
- Fairly long ears with black tufts at the ends.
- Short, "bobbed" tail with black only on top at the tip.

HABITAT:

- Most common of all North American cats.
- Prefers rimrock and chaparral of the west, swamps and forests of the east.
- The dens may be in a number of places, which vary with the character of the land; rock crevices and caves, logs and hollow trees, thickets...

FOOD:

- Mice, rats, squirrels, birds, and especially rabbits supply the bobcat with most of its food.
- Capable of killing pronghorn and deer, but only the young

or sick and injured individuals. The prospects of a 30 pound bobcat bringing down an angry 200 pound mule deer are unlikely!

- Young domestic cows and lambs, and poultry.

HABITS:

- Very shy and will seldom be seen.
- Mostly nocturnal and hunting alone.
- The wildcat's territory varies with food supply, but it may be as large as 20 square miles or as small as two.

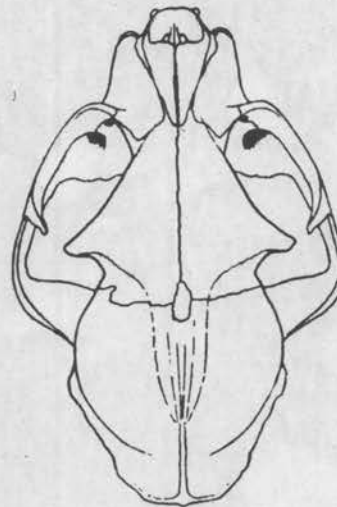
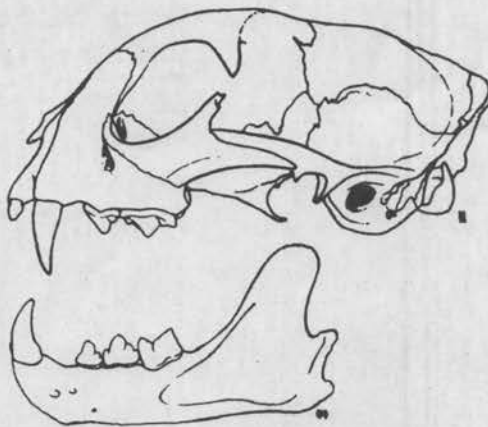
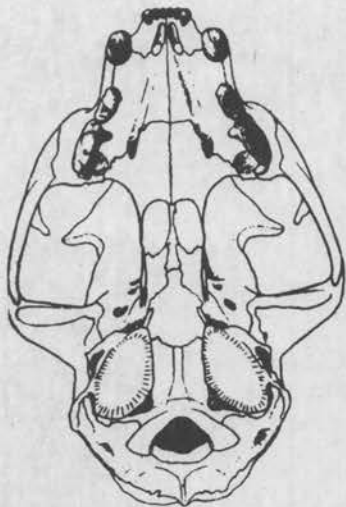
LIFE CYCLE:

- Usually two young per litter.
- Born in April-June after two months gestation.
- Lives up to 20 years in captivity.

Bobcats have better vision and hearing than most carnivores and, rather than track prey, they use their eyes and ears to spot it. Black hair tips on the ears are sensitive to sound waves and key to acute hearing.

continued...





HISTORY:

- Men have been killing bobcats for profit for centuries and as far back as 1727, Massachusetts had the first bounty on them.
- In 1975 the Endangered Species Convention banned all commercial trade in the fur of big spotted cats. With old sources of supply cut off, European furriers turned to the American bobcat. Suddenly, pelts began to command phenomenal prices and in one year (1976-77) the number of bobcats trapped for fur shot up more than 100,000.

PRESENT STATUS:

- Common, though in some areas where trapping is heavy and continuous, they are rare.
- Many reports have been made of these animals in the park and on the Snake River Plain.

INTERESTING FACTS:

- Like other members of the cat family, the bobcat is one of the most efficient hunters among mammals. Lynx rufus has many adaptations for making him a skilled predator:
 - Sharp, curved claws that are retractable;
 - long canines accompanied by a broad, short jaw for stabbing and clinging;
 - tremendous speed over short distances;
 - considerable strength and agility for its size;
 - excellent hearing and eyesight.
- The wildcat alias is no misnomer. When cornered or wounded, bobcats are spirited, ferocious, and fearless, no matter what size the attacker.
- Bobcats usually procure two young per litter. Here at CRMO and the Snake River Plain though, it may be more than that, up to four or five kittens per litter. There is a good food supply here, and the wilderness qualities of the area offer solitude and protection; two qualities that the bobcat needs in order to reproduce, yet are vastly shrinking over much of the North American continent.

AMERICAN PRONGHORN

Antilocapra americana

ALIAS:

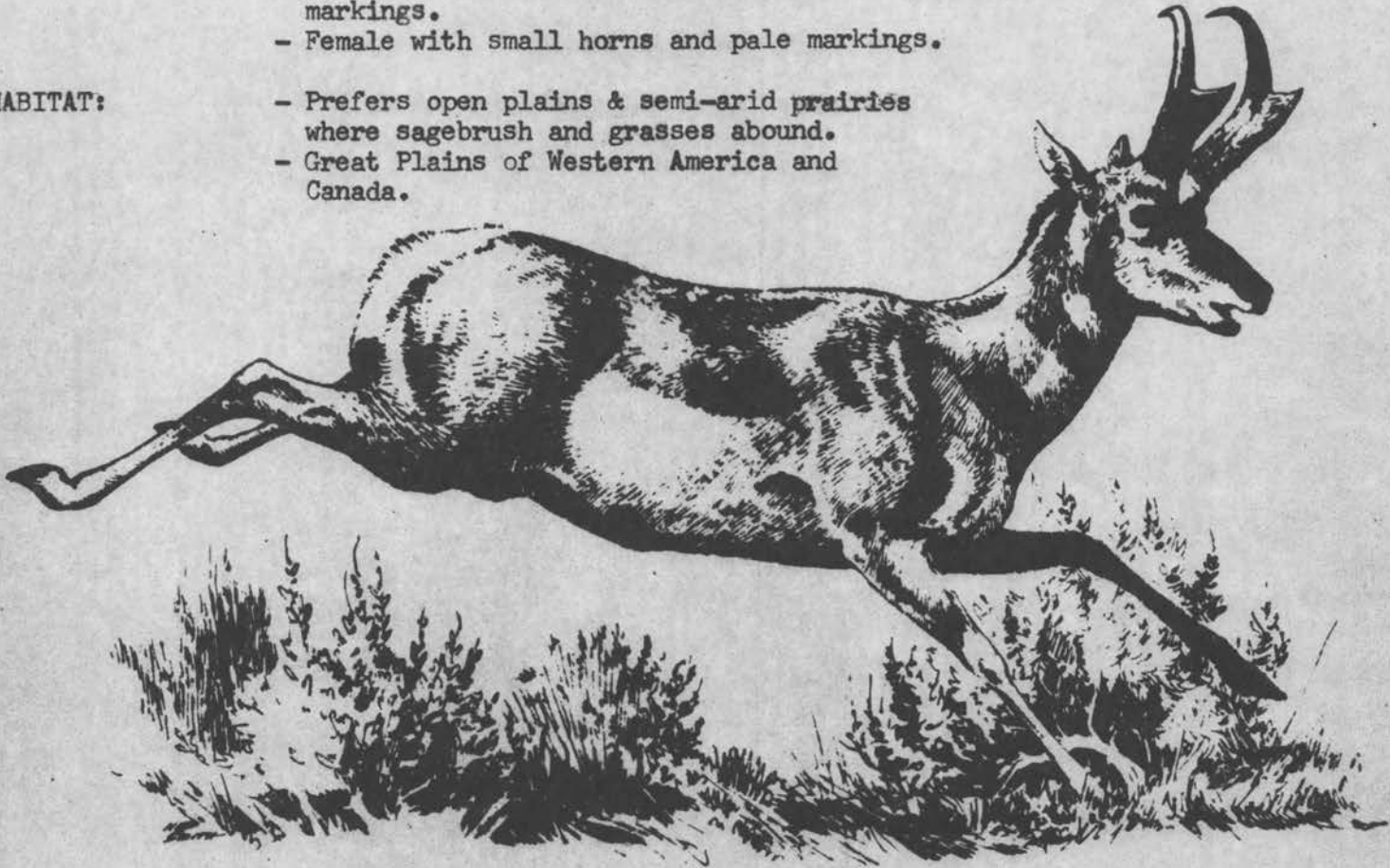
- Antelope.

I.D.

- Deer-like animal standing 3-4 feet high.
- Pale tan coloration, broken by patches and bands of white; with white lower sides and rump patch.
- 75-130 lbs.
- Male with forked horns (not antlers) and black facial markings.
- Female with small horns and pale markings.

HABITAT:

- Prefers open plains & semi-arid prairies where sagebrush and grasses abound.
- Great Plains of Western America and Canada.



FOOD:

- Herbivorous browser.
- Foliage and twigs of sagebrush, rabbitbrush and snowberry.
- Also feeds on grain and grasses.

HABITS:

- Chiefly diurnal.
- Usually occurs in small bands, joining into larger herds in the winter.
- Migratory between summer and winter ranges.
- Home range for a band usually 2-4 miles across.
- When danger approaches, may erect hair on large white rump patch.

LIFE CYCLE:

- Breeds at 1½ years; Aug.-Oct.
- Some males collect harems.
- Horn sheaths shed after breeding season.

continued....

- 1-2 young born April-May in the South; May- June in the North.
- Kids are left alone for a few days after birth, except for nursing.
- Lives up to 14 years in the wild.

HISTORY:

- Early populations compared to that of the bison but with the arrival of domestic livestock, they were driven from their traditional range and slaughtered by the millions for food and sport. By the turn of the century the pronghorn was almost extirpated from the West, with only 17,000 still alive. But through proper management and laws, they have made a remarkable return in certain areas, becoming one of America's most striking conservation success stories.

PRESENT STATUS:

- Popular game species but with strict hunting regulations in certain states.
- No permanent populations in the park, but they are common visitors, moving through the area during their annual migrations.

INTERESTING FACTS:

- Not a true antelope but a single species in the family Bovidae; Subfamily, Antilocaprinae.
- Keensighted.
- Fastest mammal on the North American continent, reaching speeds up to 65 miles per hour.
- Built for speed: slender, long legs; strong leg muscles; streamlined feet (no dewclaws); exceptional lung capacity; wind pipe 2X diameter of man's.
- Tolerate extreme conditions - Even the young can tolerate temperatures as high as 110 degrees or as low as -40°.
- Curiosity can be considered their one "downfall" or weakness.
- Singly or in pairs they often run alongside a moving car, speeding up or slowing down as necessary to remain abreast.

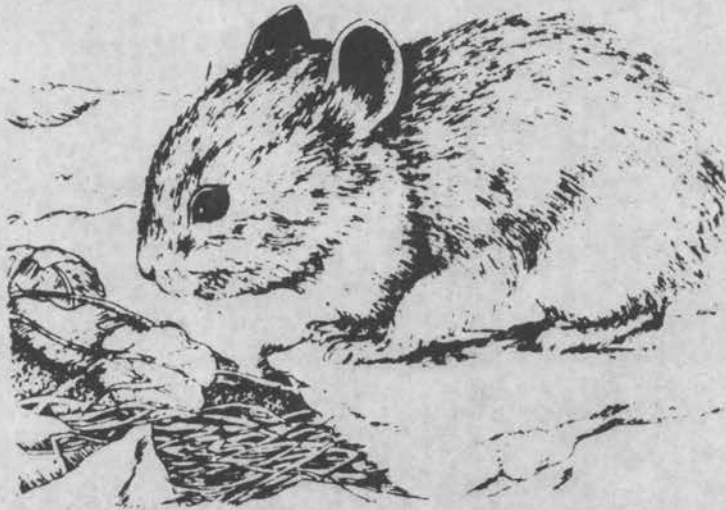
A MOTHER PRONGHORN FLASHES A WARNING WITH HER WHITE RUMP PATCH WHEN A COYOTE APPEARS, WHILE HER YOUNG FAWN HUGS THE GROUND.



PIKA

Ochotona princeps

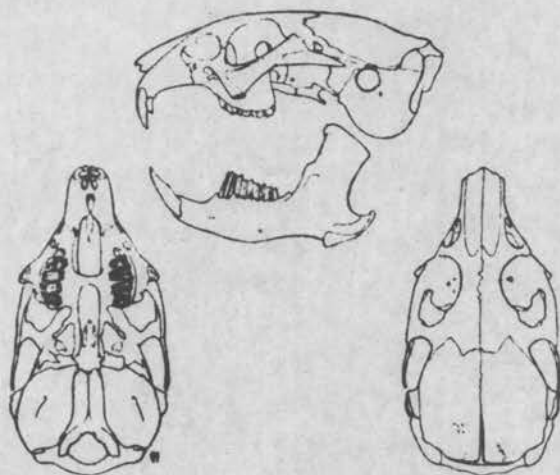
- ALIAS: - Rock rabbit, Whistling rabbit, Cony (ies).
- I.D. - Member of the rabbit order Lagomorpha.
- Resembles a guinea pig about 7-8 inches long with no visible tail.
- The body is chunky, rounded and well-furred with short ears.
- HABITAT: - Found only where there are rocks (talus slopes, rock outcroppings, slide areas, AA and pahoehoe lava flows) which provide the necessary openings in which these animals live and store their food.



- From sea level to 17,000 feet (Mt. Everest); having the highest and most widespread range of any North American Mammal.
- FOOD: - Feeds on grasses and herbs.
- Stores food in small piles of "hay" for winter use.
- Thistles are commonly found in their hay stacks and seem to be a favorite food.
- HABITS: - Active only by day and throughout the year; does not hibernate.
- Colonial, with each pika having its own territory within the group.
- When the weather is warm and/or dry, their piles of harvested forage will sometimes be placed out in the open for drying.
- LIFE CYCLE: - Born in May-June and sometimes again in July-August.
- 2-5 young are born after a 30-33 day gestation period.
- These rabbits have a multitude of natural enemies such as the bobcat, coyote, weasel and predatory birds.
- PRESENT STATUS: - Studies have shown that this species does absolutely no harm to the economy of man and enriches the esthetic value of a natural area.
- The pika mainly occurs in old lava flows throughout the area and has been seen from Echo Crater to the North Crater flow to Little Cottonwood Canyon.

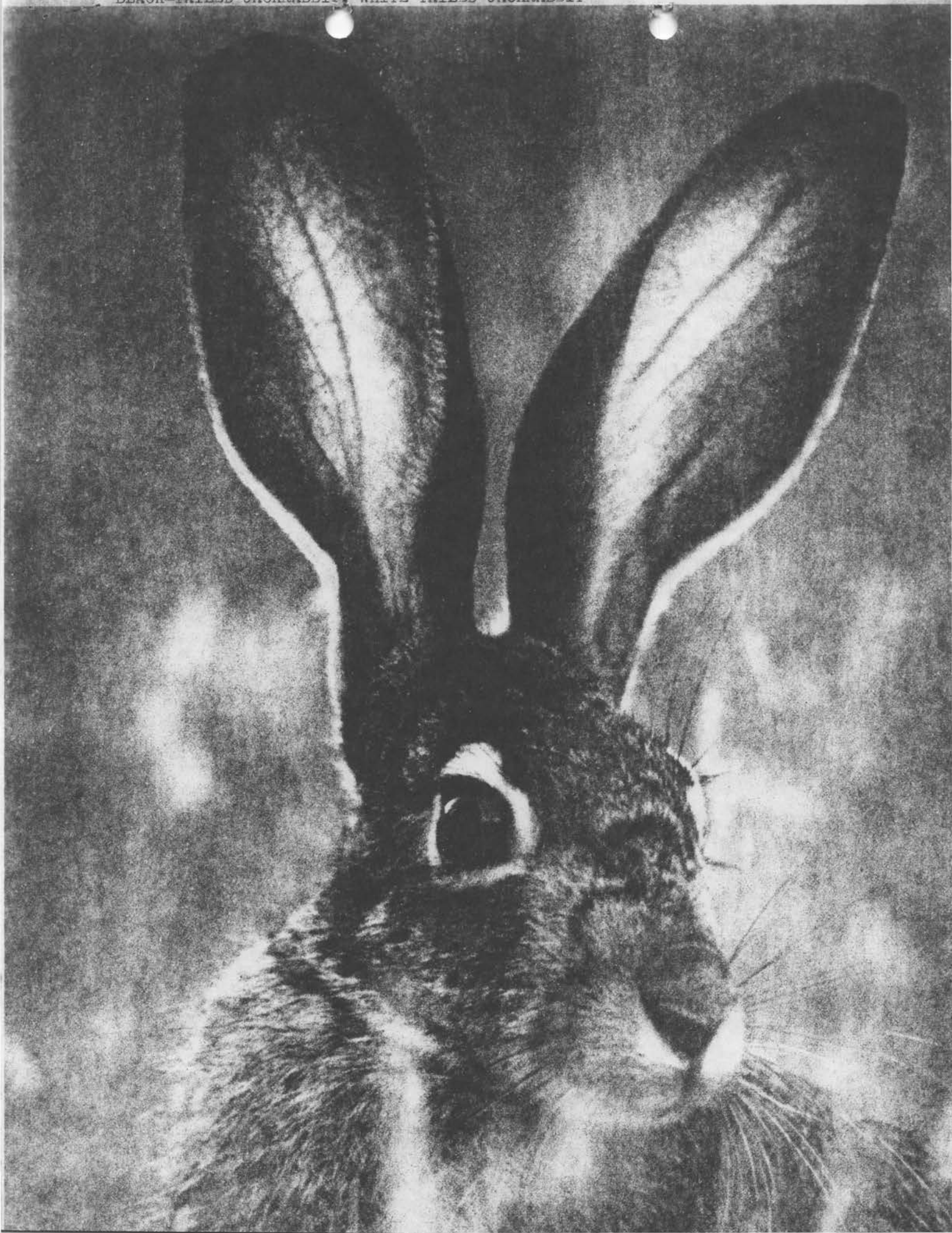
INTERESTING FACTS:

- The common name, which is pronounced "pee-ka", comes from the Tungus natives of northeastern Siberia.
- The fur on the soles of their feet allows them to walk over the snow and also helps them scamper among the rocks and lava here in the park.



- Colonial groups within an area sometimes practice a "help your neighbor escape" routine when pursued by a predator. For example; the weasel who does not capture his victim on the first time, may find himself overcome by exhaustion after chasing some twenty criss-crossing, fur-covered bundles of energy through what may be thousands of feet of complex tunnels.
- Due to their restrictions in rocky, habitat types, the range of the pikas is broken up into a discontinuous pattern of endemic areas, many of which contain a separate and distinct subspecies because of divergent evolution.
- Like other Lagomorphs, these animals have two kinds of fecal droppings. In addition to their normal, solid feces, pikas have a second kind in the form of small pellets (caecotrophs) which are vitamin enriched. These are swallowed again and kept in the stomach to be mixed with fresh food and redigested. This double-digestion process enables the Lagomorph to utilize nutrients it may have missed the first time around.





INTERESTING FACTS

- Jackrabbits are not really rabbits but hares, born fully furred with their eyes open and ready to fend for themselves. (True rabbits are born blind, hairless and helpless)
- Hare of the plain and prairies, the jackrabbits of the western United States have two obvious adaptations for semi-desert, grassland life; very long ears and large hind legs.
 - When in a hurry, they can reach speeds up to 35 mph. in a series of 20 foot bounds. They also have a unique habit called "spy hopping," when every so often they leap up 4 or 5 feet to clear the surrounding vegetation and look out for enemies.
 - Their large ears not only improve the animal's hearing but also act as a radiator for keeping the hare's body cool. These 6 to 8 inch ears are laced with blood vessels that, when dilated, help dissipate heat.
- Distinguished from rodents, these hares (and all related Lagomorphs) grow two pair of upper incisor teeth, one pair directly behind the other. Actually, rabbits, hares and pikas are more closely related to deer and elk than they are to rodents.



- Tracks: In full flight the hind feet hit the ground in front of the forefeet, producing a seemingly reverse track pattern.

- In areas where the white-tailed jackrabbit is common, the black-tailed jackrabbit will live in the lower elevations while the whitetail will survive in the higher foothills.

WHITE-TAILED JACKRABBIT

Lepus townsendii

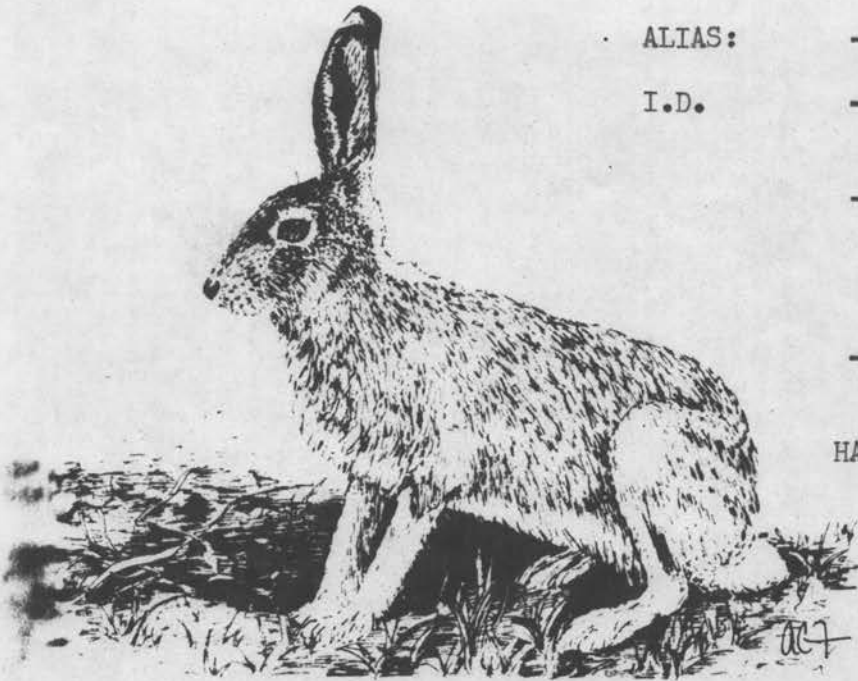


Figure 24.
White-tailed Jackrabbit in summer pelage.

ALIAS:

- Prairie hare, "Jacks".

I.D.

- Slightly larger than the black-tailed jackrabbit, weighing up to 10 pounds.
- Except for its black-tipped ears, the whitetail changes color with the season, becoming white in the northern limits of its range during the winter.
- Tail remains white all year long no matter where it lives.

HABITAT:

- Widely distributed through the West & Idaho. (except California, New Mexico and Arizona.)
- Grasslands and higher sagebrush-steppe foothills and plains.
- Aspen & fir groves are also attractive to these animals.

FOOD:

- Grasses seem to form the main dietary component but many succulent plants are taken.
- In winter, buds, tips of shrubs and bark are a main part of the diet.

HABITS:

- This is a wary species and hard to approach.
- Sits in forms during the day preening, dozing and scratching.
- Does not burrow in soil, but does make tunnels in deep snow.

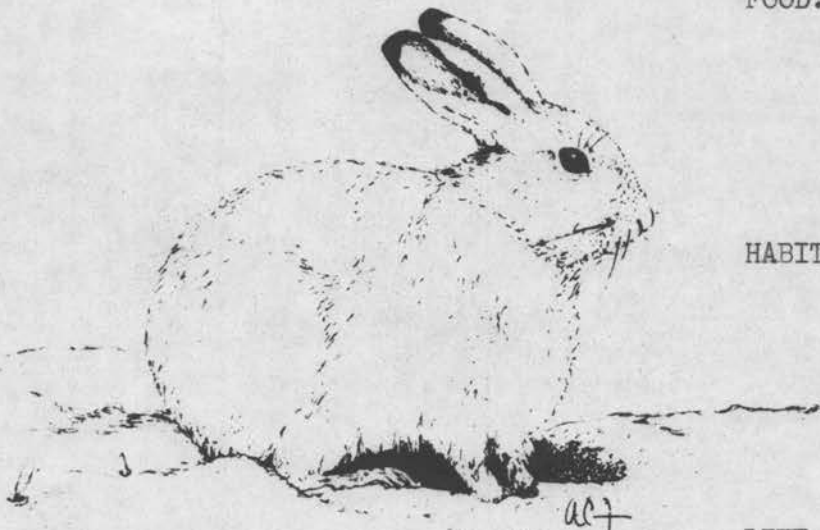


Figure 25.
White-tailed Jackrabbit in winter pelage.

LIFE CYCLE:

- Most of the breeding is done by dominant males.
- 3-6 young, born in open "nests" simply concealed by grasses & brush.

HISTORY:

- Like its close cousin, the blacktail, 60 million year old fossils of the jackrabbits prove that they are some of the oldest living mammals on earth.

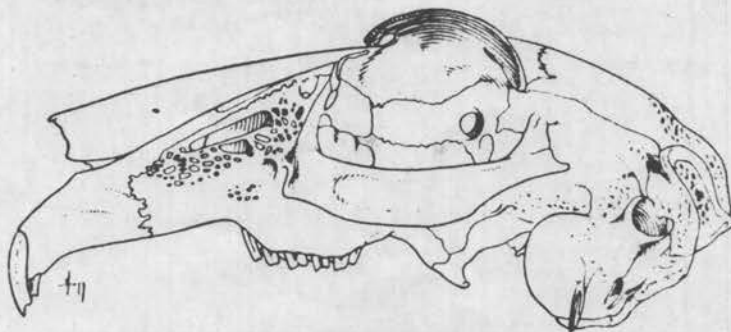
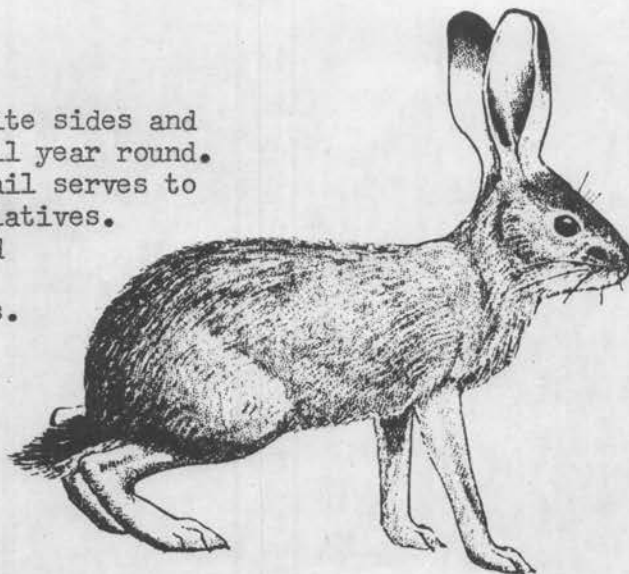
PRESENT STATUS:

- Commonly seen along the highway during the mornings & evenings.
- Relatively free from parasites.
- Provide a popular game animal & source of meat for hunters.
- Common prey for coyotes, bobcats and especially, birds of prey.

BLACK-TAILED JACKRABBIT

Lepus californicus

- ALIAS: - "Jacks", Jackass rabbit.
- I.D.
- Blacktails are dull grey with white sides and underparts, remaining that way all year round.
 - The black streak on top of the tail serves to distinguish it from all close relatives.
 - Their 8-inch long ears are tipped in black.
 - These hares can weigh up to 7 lbs. and grow up to two feet long.
- HABITAT:
- Found in all western states, Canada, Mexico and the Baja Peninsula, but rarely seen in Montana & Wyoming.
 - Their typical habitat is open prairies and sparsely vegetated deserts.
- FOOD:
- 90% of the jackrabbit's diet consists of grasses, though they will eat almost any vegetable material.
 - They also take rabbitbrush, sagebrush, cultivated crops and fruits.
- HABITS:
- Rest or sleep in forms beneath clumps of grasses or bushes.
 - Rely on speed & camouflage for their defense but the adaptations ultimately do most of them little good. Their usual fate is at the lower level of a food chain and nearly all Lagomorphs in a typical population die or are killed by predators in the 1st year of life.
- LIFE CYCLE:
- Survival of the species is ensured through phenomenal fecundity rates.
 - 1-2 young but up to 4 or more litters per year.
 - Mating season in hare country finds adults leaping and bounding around each other in ritual courtship dances.
- HISTORY:
- In many areas of the west, especially years ago, blacktail populations overwhelmed certain localities. Crops, orchards and rangeland suffered. They would not likely have become "pests" had not their enemies, the coyote and kit fox, been seriously reduced throughout most of their range. Ranchers and farmers in some areas retaliated by herding thousands of hares to slaughter in wire-fenced traps.
- PRESENT STATUS:
- The species is fairly common in Idaho but uncommon on the Monument, occurring mainly on old, sagebrush covered lava flows.
 - Common carrier of tularemia.
 - Cyclic population fluctuations are common in these hares. They usually take some years to build up and reach a peak, then fall sharply in a short time.



COYOTE

Canis latrans



Coyote

ALIAS:

- Prairie wolf, Brush wolf, "Barking dog."

I.D.

- The size of the coyote varies with subspecies and geographical locale. In general, they are large but scrawny dog-like animals, 4-4½ feet long and weighing 30-50 lbs.
- The fur can be a variety of colors: grey, brown, black and/or tan with reddish casts.
- A light color under fur gives the animal a splotchy appearance.
- The tail is heavily furred, often tipped in black or brown, and usually carried low or between the rear legs.
- Probably more commonly heard than seen. The coyote has an elaborate vocal repertoire with barks, yelps and howls.

HABITAT:

- Found throughout the western U.S., Canada and Mexico from sea level to timberline.
- Most numerous in open prairies or desert type habitats.
- Even found in urban areas: Los Angeles has a thriving population living in culverts, back alleys and on the estates of some motion picture stars.

FOOD:

- Can consume whatever is available, handy and easy to catch.
- They prey upon most small mammals, game birds, eggs, crops, livestock, plastic and rubber material, reptiles, carrion, fish, and garbage.



continued...

- Generally, location, season, and individuality dictate the daily feed.
- When food is scarce, grasshoppers become a favorite substitute.

HABITS:

- Coyote dens are usually underground, beneath the roots of large trees, in rock crevices and caves, or dug into a dirt gully. In flatland regions, it is also known to utilize highway culverts.
- Chiefly nocturnal, but may be active at any time.
- They are natural wanderers and cover great distances in their travels, but in Jan.-March however, they return to their home grounds for the breeding season.

LIFE CYCLE:

- Mates in Jan.-March with courtship occurring up to three months in advance.
- Will cross with the domestic dog and the wolf.
- The average litter runs from 4-7 pups which are born blind and helpless.
- Has lived up to 18 years in captivity but 8 years average in the wild.

HISTORY:

- Because of the permanent place the coyote has in animal folklore and in the traditions of various tribes, this wandering canine was well known to certain Indians long before the coming of the white man.
- The actual name "coyote" means "barking dog" and is taken from the Aztec word "Coyotyl".
- Some segments of society have regarded the coyote as vermin, a threat to livestock, poultry and crops. Because of that view, they have been hunted with the same methods that virtually exterminated the wolf in the lower 48 - trapping, shooting and aerial gunning, denning & poisons.
- With all of the various bounty systems and other control measures however, it is important to realize that most of the programs have been ineffective.



PRESENT STATUS:

- The coyote is one of the few mammals that has increased its range in the past two centuries - and that in the light of vigorous campaigns for its reduction. Formerly it was primarily an animal of the West, but now it is expanding east of the Mississippi, all the way through Ontario and New England.
- Here at CRMO, records of the coyote are plentiful and they continue to be a common mammal in the Monument.

INTERESTING FACTS:

- Many reports have been made of the coyote's unusual alliance with the badger. Because of its powerful claws and muscles, the badger can dig out prey. The coyote cannot. Consequently, the coyote and badger work together; the badger digging for small rodents, which the coyote, with his greater quickness, then kills taking care to leave the badger a share of the take.
- In order to dissipate heat, the coyote "sweats" through his tongue by panting.
- Litter size is known to be regulated by population density and by rodent/prey populations.
- They usually do not form packs but sometimes remarkable teamwork between two of them will often result in the capture of prey too swift or large to be overtaken just by one.

NUTTALL'S COTTONTAIL

Sylvilagus nuttallii

- ALIAS: - Mountain cottontail, Bunny.
- I.D. - These are medium-sized rabbits with relatively short ears.
- They are grizzled greyish-yellow above and whitish below.
- The tail is nearly black above and white below, and is usually carried so that the white area is conspicuous.
- HABITAT: - The habitat of Nuttall's cottontail varies with its distribution, being found in areas from forest edges to brushy thickets to junk yards.
- In more arid regions, the primary factors determining density are rock outcroppings and areas of thick sagebrush.
- FOOD: - Green vegetation, such as sagebrush and rabbitbrush, are the main items of this rabbit's diet.
- Grasses, alfalfa, and grain crops may also be taken.
- In winter, they subsist on twigs, bark and buds.
- HABITS: - Like other rabbits, these cottontails are active during the early morning and late evening hours. Most of their daylight time is spent lying in forms and dusting.
- A shy and timid creature, it seldom ventures far from the protection of rock crevices or brushy thickets. If surprised in the open, it sometimes dashes for the nearest shelter rather than dodging erratically as most other rabbits do.
- The nest of S. nuttallii is reported to be a cuplike cavity lined with fur and dried grass.
- LIFE CYCLE: - 4-6 young are born between April and July.
- Unlike hares and jackrabbits, the young of cottontails are born naked, with their eyes closed, and totally dependent upon their parents.
- Mammalian predators include bobcat and coyotes. Avian predators consist of great-horned owls, marsh hawks and golden eagles. One possible reptilian predator, the rattlesnake, has also been noted.
- PRESENT STATUS: - According to early records, there have been more sightings of this species than of any other rabbit or hare in the Monument. They seem to occur in most all habitats here, from Devil's Orchard to kipukas to lava flows.



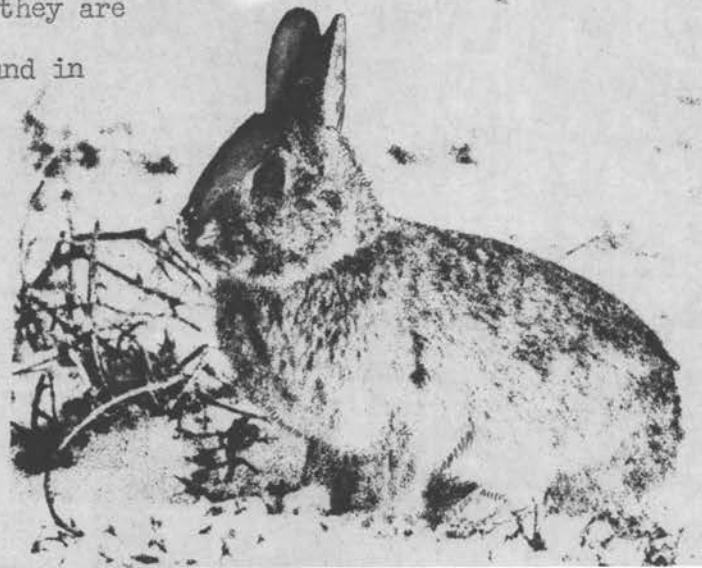
- INTERESTING FACTS:
- The order Lagomorpha dates back 65 million years ago, while lagomorphs achieved their present form around Oligocene times, only a mere 38 million years ago.
 - Both rabbits and hares have large protruding eyes set high on their heads, giving them an almost complete circle of vision. But their eyes, like those of most nocturnal mammals, are probably blind to colors.
 - This rabbit stays much the same color in the winter or in the summer. But during the winter moult the rabbit's feet sprout long, coarse hairs that enable it to negotiate drifts and provide some protection from the cold weather.
 - Besides carrying tularemia (rabbit fever), cottontails host large numbers of parasites, many of which are infectious to man. ~~They~~



Map 14B. Mountain cottontail, *Sylvilagus nuttallii*, in west; Eastern cottontail, *Sylvilagus floridanus*, in east

They also transport ticks, plague-carrying fleas, warble-fly larvae, tapeworms, roundworms and flukes.

- Cottontails have about 17,000 taste buds, compared to 10,000 in humans, a good indication that they are true connoisseurs.
- In full flight the hind feet hit the ground in front of the forefeet, producing a seemingly reversed track pattern.



NORTH AMERICAN BADGER

Taxidea taxus

ALIAS:

- Badged-face.

I.D.

- This 20-30 lb. member of the weasel family is a short-legged, heavy-bodied carnivore with a decidedly flattened appearance.
- Its back is yellowish-grey with facial markings including a white stripe extending from the nose back across the top of the head, white cheeks, and a black spot just forward of the ears.

HABITAT:

- The badger is found in all western states stretching its range east to Michigan, north to southern Canada and south to Mexico.
- They occur from timberline to the most arid regions but seem to prefer open country, especially sagebrush plains.
- Badger burrows may be enlarged former rodent homes or freshly dug chambers up to 60 feet long. In summer, they seldom use the same den for more than two days in a row.

FOOD:

- Foods are varied but include mostly small vertebrates, especially rodents.
- Also fond of bees and honey, other insects, and snakes.

HABITS:

- Active both day and night, but prefers a nocturnal existence.
- They are not true hibernators but can become torpid in winter at higher elevations and/or latitudes.
- Males are solitary, except for the mating season and females are usually so except for the same period or when rearing the young.

LIFE CYCLE:

- Mating occurs in late summer or early fall but implantation is delayed until December to February.
- Young are born in March to early April.
- Badgers have been known to live up to 11 years in captivity.

HISTORY:

- During the years of the coyote control campaign, badgers were indirectly killed off and subsequently became very rare in certain areas. Since that program has been halted, they have been making a slow but gradual comeback in those areas.

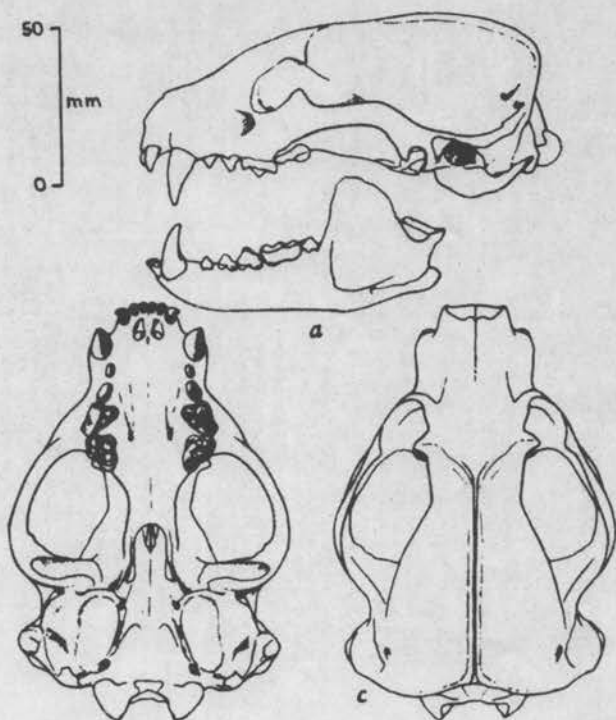


PRESENT STATUS:

- Current densities for badgers are estimated at usually one for every square mile.
- According to Fuller, badgers are not abundant in numbers but are fairly common throughout the Monument.

INTERESTING FACTS:

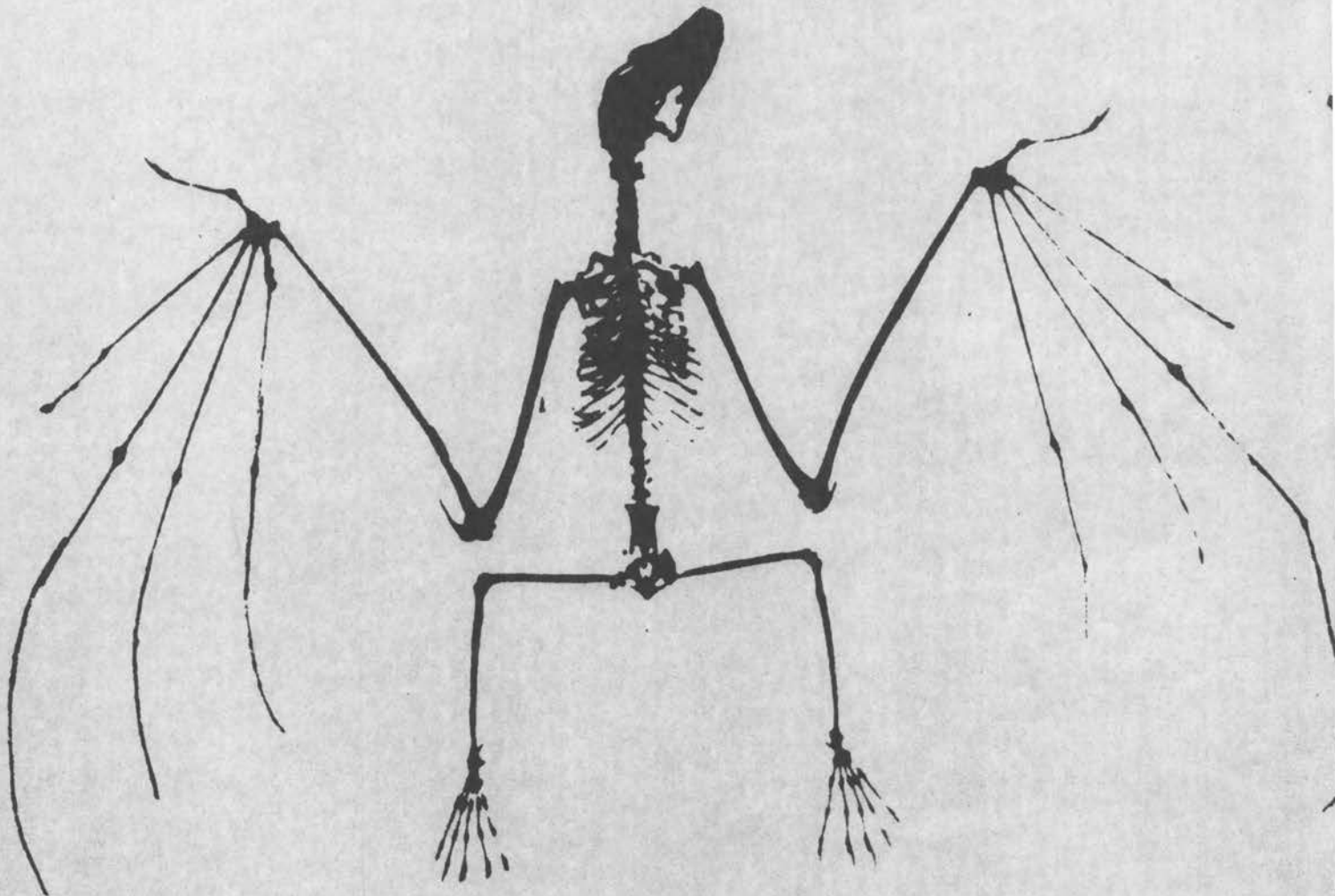
- The North American badger is greatly adapted for a fossorial or burrowing and underground life. Because of its body characteristics (i.e. flattened size, sharp claws and powerful muscles) they are efficient diggers, spend much of their life under the surface, and gain much of their prey by overtaking them in underground races.
- Because of its size, sharp teeth & claws, a furious temper to territorial intruders, and extraordinary courage, the badger has few natural enemies. Their greatest mortality comes from guns, autos, poisons and traps.
- They were once commercially trapped and their fur used as bristles for shaving brushes.
- There have been many documented cases of an interesting hunting alliance that the badger has with the coyote. Because of the badger's qualities at digging out prey, he will initially go after the small rodents and other such animals. Since the coyote has quickness and a surface hunting skill, he awaits the prey once it is forced out by the badger. There, it is killed by the coyote who takes care to leave a portion for the badger.



LITTLE BROWN BAT, BIG BROWN BAT, LONG-EARED BAT, TOWNSEND'S BIG-EARED BAT

INTERESTING FACTS

- Bats are one of the most successful groups of animals, comprising the second largest mammalian order. (Rodents are first) The major factors resulting in this success are:
 - echolocation,
 - flight,
 - heterothermy.



- Their small eyes are probably of little use in their night flight. To substitute for poor vision, they have evolved a sonar system for locating solid objects called echolocation. They emit a series of supersonic sounds and receive echoes as the sound waves bounce back from other objects. Their frequencies are between 25,000-75,000 cycles per second. (Humans detect only up to 20,000 cycles per second)
- The bats are the only group of mammals that have achieved true flight. They have greatly modified forelimbs and fingers which serve as supports for the thin, adjoining membranes forming the flying surfaces of their wings. These membranes:
 - enclose fingers (except the thumb),
 - extend back along the sides and are usually attached to the hind limbs at the ankles,
 - stretches between the two hind limbs, usually enclosing the tail.

continued...



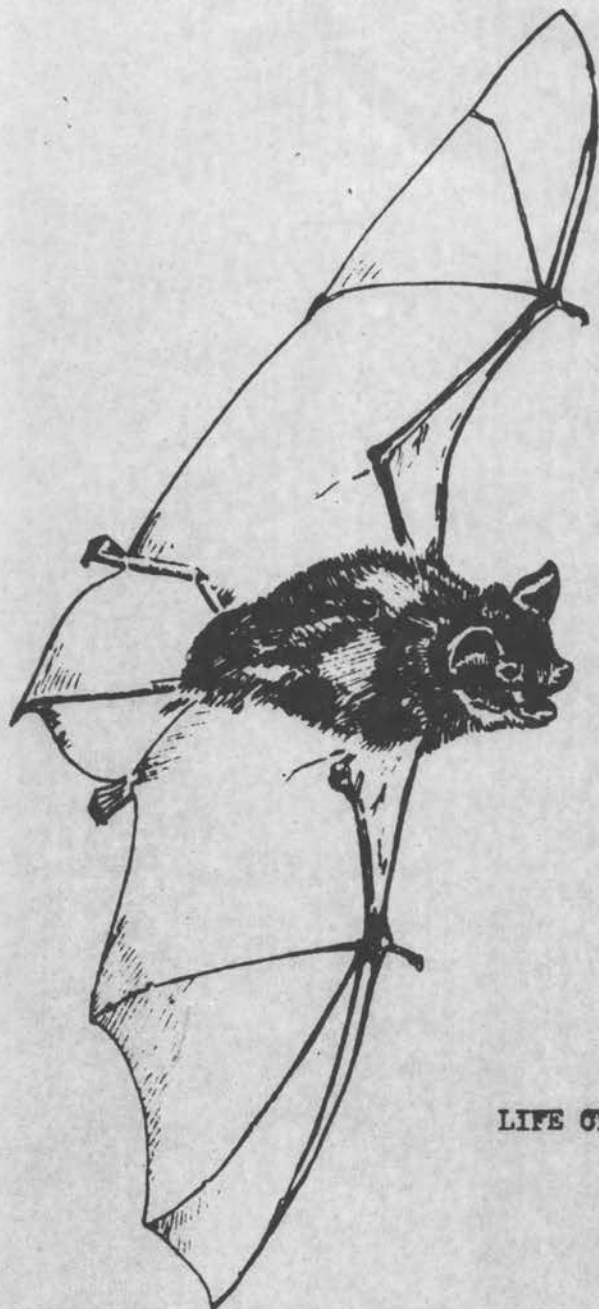
Myotis lucifugus lucifugus

Other modifications include well developed muscles, a complex network of elastic fibers, and specialized elbow and wrist joints.

- Heterothermy, allowing bats to hibernate or to operate at a lowered metabolic output during part of the 24 hour cycle, has enabled these animals to occupy areas only seasonally productive of adequate food, to utilize an activity cycle involving only nocturnal foraging periods, and has affected the longevity of some bats.
- Hind toes are free and are used for holding on when the bats rest in its typical upside-down form.
- Thumb is free and terminates in a claw.
- A few instances of rabid bats have been reported, but these are so rare that there is little reason for alarm.
- Bat ticks are common ectoparasites.
- Most bats merit protection for their importance in terrestrial ecosystems as efficient predators of insects.

LITTLE BROWN BAT

Myotis lucifugus



I.D.

- M. l. carissima is the subspecies throughout the south part of Idaho.
- Small bat with yellowish-brown upper parts.
- Membranes are blackish-brown.
- 3-4 inches long with an 11 inch wingspan.
- Moderate, pointed ears.
- Tail enclosed in a membrane.

HABITAT:

- Most abundant species of bat on the North American continent.
- Caves, rock crevices, hollow trees, and buildings.

FOOD:

- Feeds exclusively on insects, catching them on the wing.
- Uses echolocation to locate prey.
- Can consume up to 500 insects per hour.

HABITS:

- The little brown bat begins its evening flight to forage at a fairly early hour after sundown.
- Uses the same foraging patterns from night to night.
- Flight speed averages 11mph.
- Highly colonial with males and females roosting together in winter during their hibernation.
- Although they become torpid, they do not go into a deep sleep.
- During the summer, the females are segregated into nurseries.

LIFE CYCLE:

- Mating in the fall; sometimes in the winter when the female is hibernating.
- Delayed implantation.
- Gestation: 80 days.
- Usually 1 young in mid June.
- Become self-supporting at about 1 month old.

PRESENT STATUS:

- One of the four common species in the Monument.
- Very common but many of the sightings are easily confused with the big brown bat.

BIG BROWN BAT

Eptesicus fuscus

I.D.

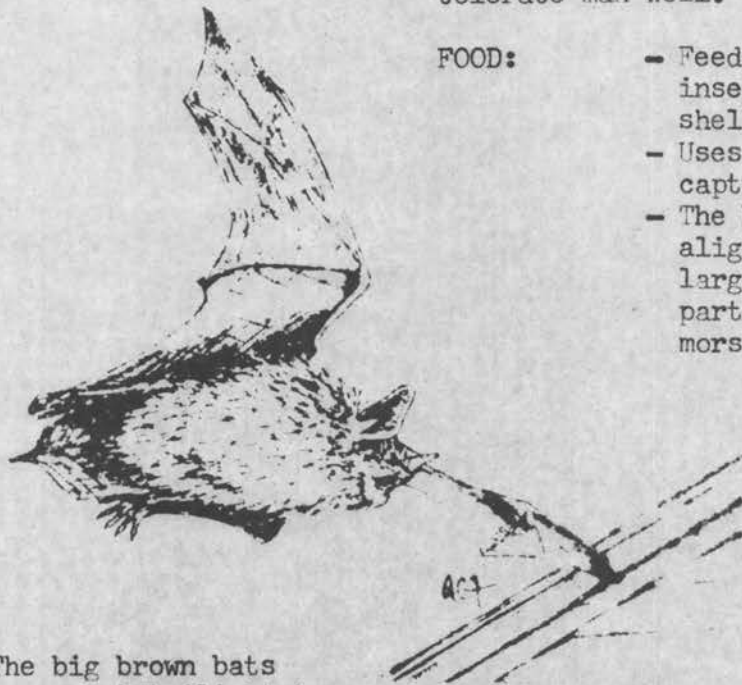
- This is the largest brown bat in Idaho with a wingspan up to 13 inches.
- Very similar to the little brown bat, but larger.
- Brown in color with black membranes, wings and ears.
- Under parts slightly lighter than upper parts.

HABITAT:

- Fond of forested areas but not restricted to them.
- They inhabit caves and rocky crevices and do not object to living in buildings since they tolerate man well.

FOOD:

- Feeds exclusively on insects, chiefly hard-shelled beetles.
- Uses echolocation to capture prey.
- The bats will sometimes alight on a roof or a large boulder to consume particularly large morsels.



HABITS:

- The big brown bats emerge at twilight to begin their evening foraging.
- They are somewhat slower in flight than the smaller bats, due to their large wingspans.
- Some migrate while most congregate in winter for hibernation.

LIFE CYCLE:

- Two young are born in June but four offspring are not uncommon.
- By August the young have developed enough to be self-sufficient.

PRESENT STATUS

- One of the four common species in the Monument.
- Since it is easily confused with the little brown bat, many actual occurrences of the big brown bat are mistaken for the little...
- The large size of these bats indicate a considerable amount of insects consumed by them annually.

LONG-EARED BAT

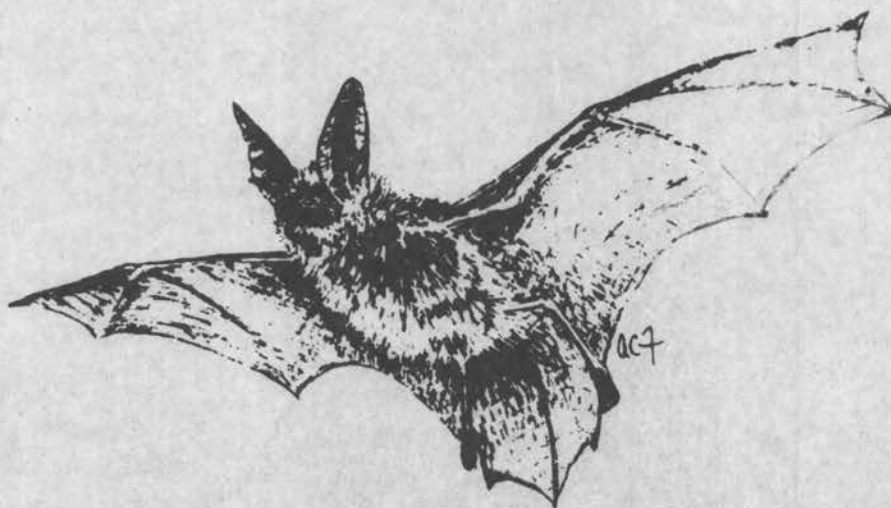
Myotis evotis

I.D.

- This bat is slightly larger than the little brown bats.
- Light to medium brown color with black ears and membranes.
- The large ears extend approximately $\frac{1}{4}$ inch beyond the nose when laid forward.

HABITAT:

- The long-eared bat seems to prefer areas of sparse vegetation and few trees to semi-desert types.
- It is not a cave bat but frequents buildings and trees, even though these bats have been reported in the Great Owl Cavern area of the park.



FOOD:

- Feeds on insects.
- Uses echolocation to capture prey.
- Forage well into the night, probably later than any of the other bats in the Monument.

HABITS:

- Not known to occur in large groups or colonies but usually found individually.
- Uses buildings and trees as its roosting sites.

LIFE CYCLE:

- In general, very little research has been done on these bats. Because of this, their habits, life styles and reproduction facts have never been accurately documented.
- Usually one young in June-July.

PRESENT STATUS:

- Though widely distributed, there are few occurrence records and nowhere does it seem to be common.
- One of the four bats inhabiting CRMO.

BIG-EARED BAT

Plecotus townsendii

I.D.

- The Townsend's big-eared bat (or Western big-eared bat) is a medium-sized, brown bat with extremely large ears.
- This is one of the so-called "lump-nosed" bat. Glandular masses are between the eyes and nostrils.

HABITAT:

- Townsend's bat is primarily a cave-dweller but is often found in dark attics and mines.

FOOD:

- Feeds on insects.
- Uses echolocation to capture prey.



HABITS:

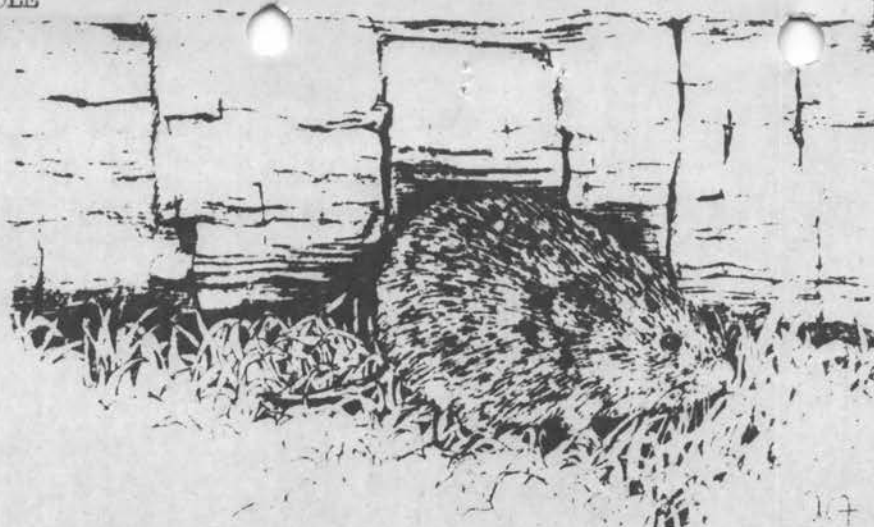
- This species may be more nocturnal than other bats.
- They leave their place of refuge at late dusk and forage high in the sky, coming near the ground only after darkness has settled.
- Colonial in nurseries and hibernation.

LIFE CYCLE:

- Normally one born in April-July.
- Naked; eyes open at 8-10 days; flies at three weeks.

PRESENT STATUS:

- One of the four common bats in the Monument.
- Common late in the evenings.



ALIAS:

- Montane meadow mouse, Mountain vole, Meadow mouse.

I.D.

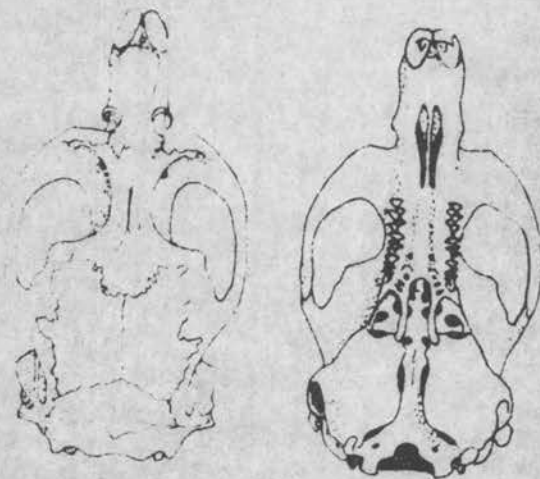
- Medium-sized rodents (4-5½") with blunt snouts and stout, chunky bodies which are dark brown on top, sometimes with a reddish cast.
- Legs, fur-covered tail and ears are short, and the small black eyes are beadlike in appearance.
- Bicolor tail.

HABITAT:

- Occurs mostly in the drier, open parts of the northwest such as eastern Oregon and Idaho.
- Prefers dry grassland, sagebrush-grassland & semi-desert areas, and is not found in or around forests nearly as often as other voles.

FOOD:

- Voles are among the most strictly vegetarian of mammals with their diet consisting of grasses, seeds, bulbs and the bark of trees & shrubs.



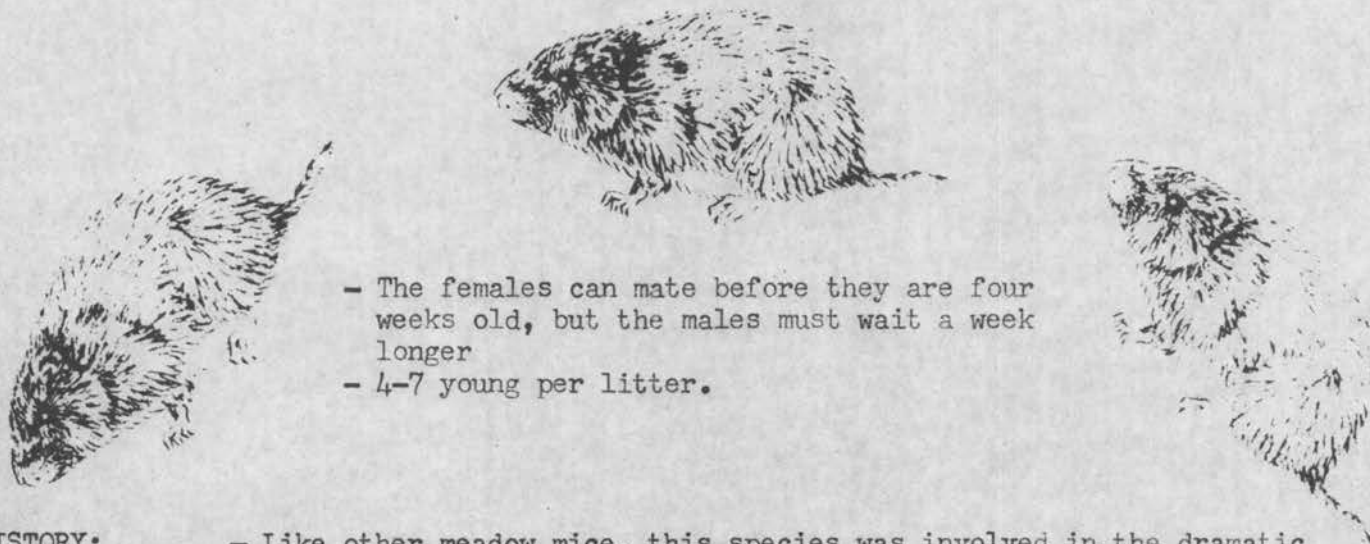
- They consume great quantities of green vegetation.

HABITS:

- Active throughout the year and are subject to cyclic irruptions in their populations.
- The presence of voles may often be detected by narrow runways, 1-2" wide, through the matted grasses. These aboveground trails connect the exit tunnels to their extensive underground chambers and also lead toward their favorite feeding areas.

LIFE CYCLE:

- These small mammals are extremely prolific, averaging 3-5 litters per year.
- Fortunately, most of the young are killed by predators before they reach maturity.



- The females can mate before they are four weeks old, but the males must wait a week longer
- 4-7 young per litter.

HISTORY:

- Like other meadow mice, this species was involved in the dramatic irruption in the Pacific Northwest during the winter of 1957-58. These voles were estimated to cause 110,000 acres of cropland to suffer extensive damage; potato losses running 50%; alfalfa, 15%; and in some hay fields, the loss was total. In natural areas, bitterbrush stands suffered up to 90% destruction.

PRESENT STATUS:

- Most voles occurring on the Snake River Plain are this species and here too, they show population cycles. According to the 1964 Super's report, Microtus were very abundant and probably responsible for the damage to plants in the residential areas.
- Presently, the range of these voles extends throughout the Monument.

INTERESTING FACTS:

- In these "plague years" the numbers of voles is so enormous that even the increased number of natural enemies can do little to reduce the vole population. Instead, the Microtus density slumps, probably due to overcrowding, social stress, density-dependent birth control and disease.
- Voles are valuable buffer species - animals that deflect predators from more valuable game species such as grouse, deer and fur-bearers.
- Weasels & owls are their greatest enemies because the weasels can actually enter the runways, and because the owl can rely on hearing to locate the hidden rodents underneath the ground litter.
- The runways are made by forcing a way through the tangle of ground litter without disturbing the outward appearance of the grass. This hangs over the runs, screening the voles from enemies. It is possible to stand over a patch of grassland, knowing that voles are present, yet never seeing a sign of them.
- Voles feed for periods of 3-4 hours throughout the day and night, and alternate this with equal periods of rest.
- Diseases such as tularemia & sylvatic plague may be carried by meadow mice.

ALIAS:

- White-footed mouse.

I.D.

- Upper parts range from pale to rich reddish brown; feet and underparts white; tail is sharply bicolor.
- Head and body 2-4 inches; tail 2-5 inches.

HABITAT:

- The deer mouse is adapted for surviving in many different habitats. Some sub-species are comparatively versatile in this respect and others more narrowly restricted in habitat. It is common along streams, in meadows and marshy areas, forests, sagebrush prairies, and from lowlands to rocky peaks. They frequent dry-land areas.

FOOD:

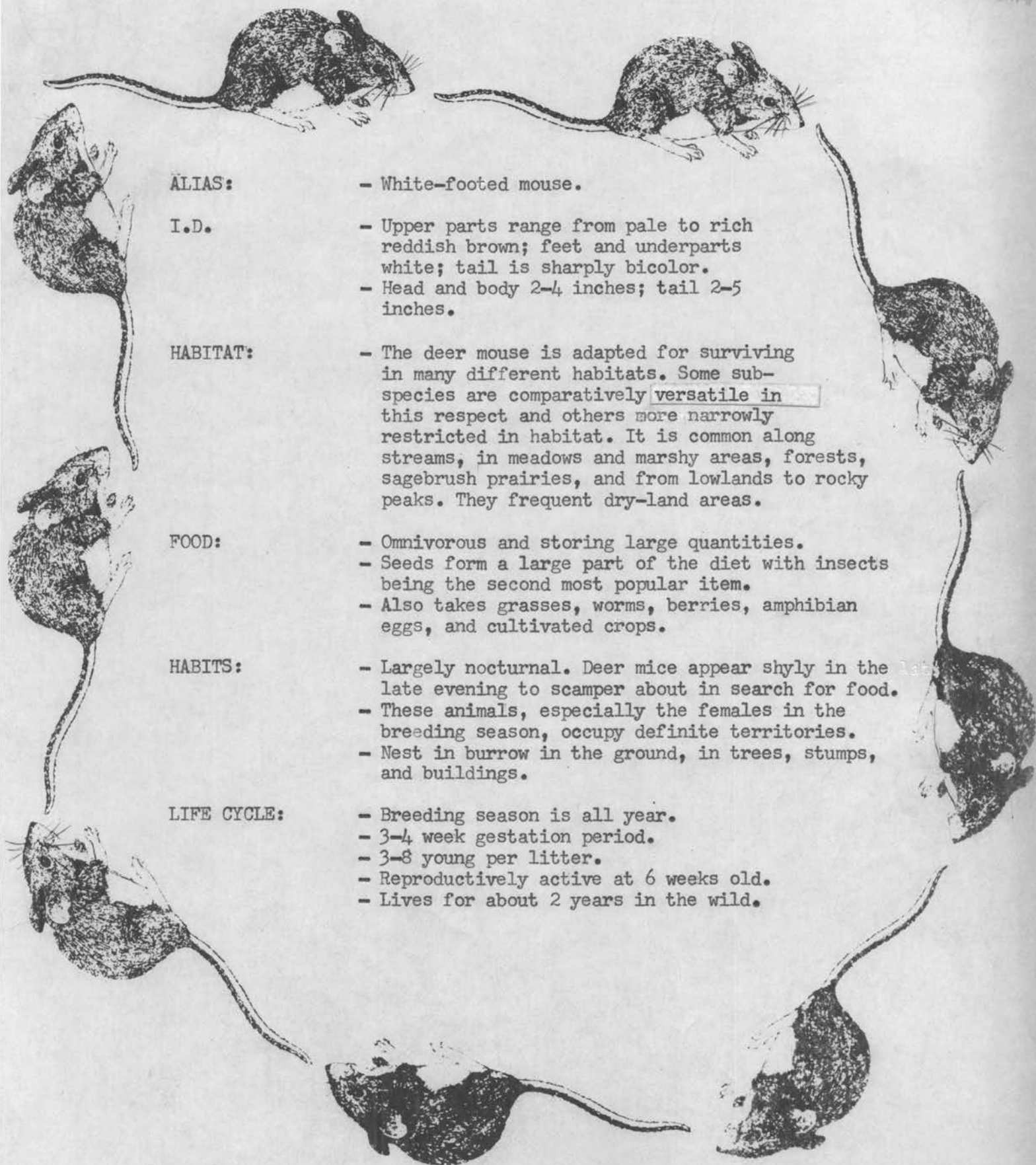
- Omnivorous and storing large quantities.
- Seeds form a large part of the diet with insects being the second most popular item.
- Also takes grasses, worms, berries, amphibian eggs, and cultivated crops.

HABITS:

- Largely nocturnal. Deer mice appear shyly in the late evening to scamper about in search for food.
- These animals, especially the females in the breeding season, occupy definite territories.
- Nest in burrow in the ground, in trees, stumps, and buildings.

LIFE CYCLE:

- Breeding season is all year.
- 3-4 week gestation period.
- 3-8 young per litter.
- Reproductively active at 6 weeks old.
- Lives for about 2 years in the wild.



PRESENT STATUS:

- Probably one of the most common and widely distributed mammals at CRMO, Idaho and the North American continent.

INTERESTING FACTS:

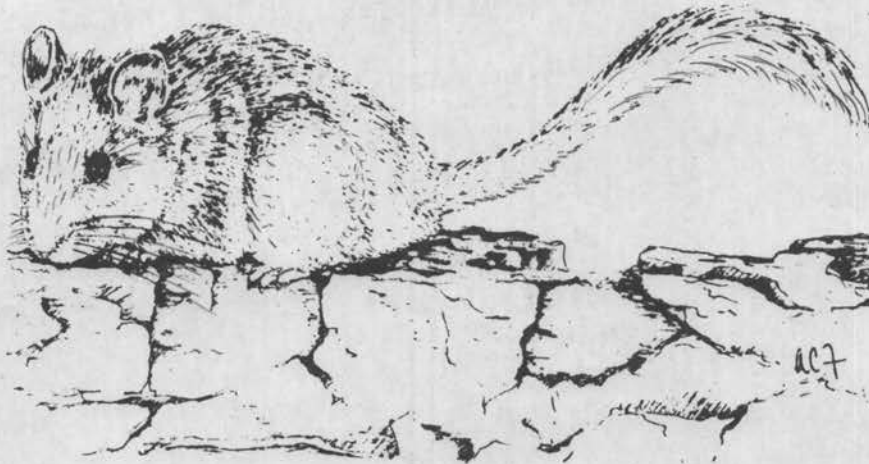
- Deer mice are prolific breeders, with the season ranging from Feb. to Nov. in most areas.
- Due to its numbers, wide distribution and eating habits, these mice may pose problems in many areas:
 - They can hinder reforestation by consumption of the seeds;
 - stored grain and crops can suffer from them;
 - living in houses and trailers make them pests in many ways.
- In their favor should be mentioned the hordes of insects they destroy and their biologically essential place at the base of food chains for predators.

BUSHY-TAILED WOODRAT

Neotoma cinerea

ALIAS: - Packrat, Cave-rat.

I.D. - They vary in color from a pale grey to dusky brown with very long whiskers and a squirrel-like, bushy tail.
- Head and body 7-9½"; tail 5-7½".
- Hind feet are white.



HABITAT: - Mountainous and rocky regions of western North America; most commonly found in Montana, Idaho, and Wyoming.
- Nests in rocky cliffs, talus slopes and caves.

FOOD: - Green vegetation, seeds, roots, wild nuts, and berries.
- A large amount of food is often stored in the nest against hard times or cold winters.
- Seldom needs fresh water, as "metabolic water" is absorbed during food digestion.

HABITS: - Live alone except when nesting or rearing the young, and often occupy the same home for a lifetime.
It has been estimated that woodrats generally travel no more than 50 feet in any direction from their nests.

LIFE CYCLE: - Breeding season is from May to September.
- Usually 2-4 young in a litter, once or twice a year.

STATUS: - Plentiful at the Monument, packrats occur in craters and caves on the flows and are especially evident at the Buffalo Caves area.

continued...

INTERESTING FACTS:

- Aside from the harboring of disease vectors and local thieving, woodrats cause little economic loss.
- These animals are a valuable food source for all types of carnivores, especially the great-horned owl.
- Their dens and nests are marked by urine residue, abundant droppings, and a distinctive musky odor.
- A true "pack rat", these animals collect material for no apparent reason and store it in their nests.

They frequent shiny objects

like watches, sunglasses, coins, silverware, and even

discarded beer cans and garbage. Where people seldom pass, they make do with natural objects. Bones are a favorite: Complete skeletons, or skulls and body parts often decorate the dens. Even shiny stones, quartz and mica are used.

- Some packrat nests are used over and over again by successive generations. Scientists examining these nests by radiocarbon dating techniques have discovered that some have been in more-or-less continuous use for more than 14,000 years! In really old nests researchers have found archaeological trinkets, droppings from extinct animals, bones from prehistoric birds, and ancient artifacts.
- It is very common for the bushy-tailed woodrat to share its home with some unusual roommates; Rattlesnakes, the rock wren, spiders and insects, and mice.
- Recent research shows that the woodrat is relatively immune to the rattler's poison, and that it may take 130 times as much rattlesnake venom to kill a packrat as it takes to kill a mouse.

