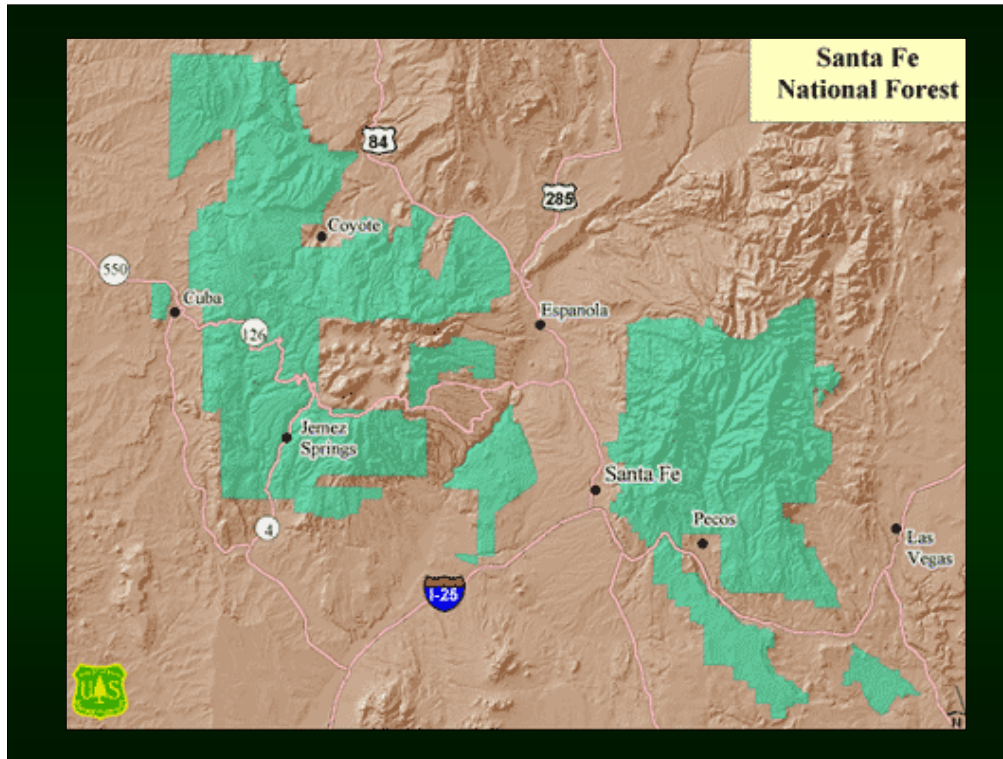


Habitats and Wildlife of the Santa Fe National Forest



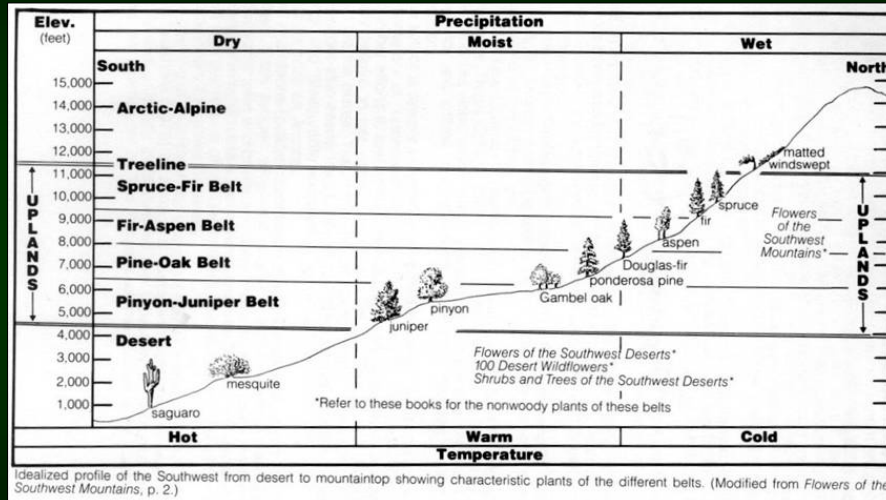
USDA Forest Service, Southwestern Region, Santa Fe National Forest, 2005



The Santa Fe National Forest is one of the five National Forests in New Mexico. The National Forests are America's great outdoors, here to serve the American people at work and play. Some of the finest mountain scenery in the Southwest is found in the 1.6 million acres covered by the Santa Fe National Forest. Within the forest's borders are lush meadows, miles of conifer trees, and a dormant volcano with a 15-mile wide crater (Valles Caldera National Preserve). Visitors can enjoy camping, fishing, hiking, and many other outdoor recreation activities. Elevations rise from 5,300 to 13,103 feet at the summit of Truchas Peak, located within the Pecos Wilderness. Our objective is to maintain that natural beauty.

The mission of the USDA Forest Service is to sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations. The motto, "CARING FOR THE LAND AND SERVING PEOPLE," captures the Forest Service mission. As set forth in law, the mission is to achieve quality land management under the sustainable multiple-use management concept to meet the diverse needs of people.

Life Zones of New Mexico



From Elmore, F.H. 1976. *Shrubs and Trees of the Southwest Uplands*. Southwest Parks and Monuments Association, Tucson, AZ.

As you travel up in elevation, you notice changes in plant life. For every 1,000 feet traveling up in elevation the temperature drops 3-4 degrees (Fahrenheit). It is the change in temperature, precipitation, and elevation that divides the area into different life zones. Each life zone

Life Zones of New Mexico

11,500 ft. Alpine Zone

9,500 ft. Subalpine Zone

8,500 ft. Coniferous Forest Zone

**7,000 ft. Transition (Mountain) Zone
Grasslands/Woodlands Zone**

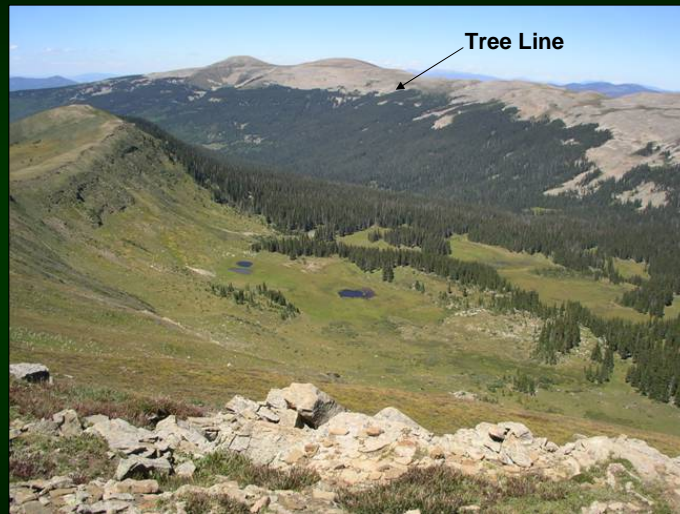
3,000 ft. Desert Zone

Each life zone has a different set of conditions that predetermines the kinds of plants and animals which can live in its region. Both plants and animals adapt themselves to those various conditions. Each life zone has its own special requirements for growth, and in each habitat live only those plants and animals that can endure its harshest conditions.

We will be taking a look at the different habitats and animals that occur at various elevations on the Santa Fe National Forest. We will start at the top (highest elevation) and work our way down in elevation.

Alpine Tundra

Alpine Zone



Pecos Wilderness

As the elevation 11,500 feet is reached, trees become smaller and smaller until they are no more. The trees in this zone are hit by high-velocity, drying winds and are subjected to very low temperatures.

Below-freezing temperatures are frequent, even in mid-summer, and snowstorms may occur at any time. This makes for a very short growing season of approximately 90 days; hardly long enough for seeds to be produced.

Above treeline, plants consist mostly of deep-rooted mat- and cushion-plants, dwarf willows, grasses, and sedges. The grassy slopes are usually referred to as alpine meadows.

Alpine Tundra

Wildlife



Rocky Mountain Bighorn Sheep

Rocky Mountain bighorn sheep inhabit the cliffs and other extremely rocky areas in tundra and alpine areas from the summit peaks to around 200 meters below the treeline of the Sangre de Cristo Mountains. Bighorn prefer habitats near feeding areas containing grasses, forbs and browse (woody) species.

A bighorn sheep is a prized game animal. Both its horns and flesh are valued by the sportsman. Hunting pressure and competition with livestock have caused this magnificent American species to disappear from many parts of its former native range. Bighorn sheep were reintroduced to the Pecos Wilderness in the 1960's.

Bighorn were never widespread in New Mexico, historically occurring in only four to six populations. Currently, five populations comprised of about 570 animals are found in the state, but the sheep's status is not secure. A variety of impacts can adversely affect bighorn including recreation use, roads, fences, poor range conditions, fire suppression, diseases, illegal harvest and predation.

Alpine Tundra

Wildlife



Photo by Sandy McRuer



Photo by Rob Bennetts

White-tailed Ptarmigan

White-tailed ptarmigan inhabit alpine tundra and timberline habitats. The white plumage conceals these birds in winter snow, and their brown-and-white plumage provides protective coloration in other seasons and sites. The degree to which ptarmigan depend on concealment is legendary, and one can virtually trip over them before they move.

White-tailed ptarmigan feed primarily on buds, leaves, flowers, and when available, insects and other arthropods.

Alpine Tundra

Wildlife



Pika

Pikas are small, tail-less, guineapig-like inhabitants of rocky places in high alpine elevations. They usually live at altitudes of 8,000 to 13,500 feet.

Pikas are herbivores and feed on many species of green plants. They eat some plants on the spot and carry cuttings of other plants to boulders near its home. A pika will spread the cut plants out to dry in the sun, curing its “hay” as a farmer does. Haystacks are not high, but may contain up to a bushel of vegetation, primarily grasses and sedges, but also fireweed, sweetgrass, and thistles. Later, the dried vegetation is stored in the pika’s den.

Spruce-Fir Forest

Subalpine Zone



East Fork Jemez

The subalpine zone is the highest, wettest, windiest, and coldest of all the life zones in which full-size trees can grow. Here the heaviest snowfall of any of the mountain zones is encountered; in fact, twice as much snow falls here as in the coniferous forest zone below. Because of this, most of the Southwest's ski areas are located on these parts of the mountains in order to take advantage of the deep, powdery snow.

The shade of the forest, together with lower temperatures, causes the snow to stay on the ground late into spring and sometimes well into summer. It melts gradually, thus assuring the vegetation a continuing supply of water throughout the short growing season of no more than 100 to 120 days.

Elevation Range: 9,500 – 11,500 feet

Spruce-Fir Forest

Wildlife



Boreal Owl

The boreal owl is associated with relatively inaccessible tracts of high-elevation coniferous forest, especially mature to old growth spruce and fir. It is entirely nocturnal, spending the day concealed in dense spruce or a hollow tree.

Like most owls, the boreal owl does not construct a nest. The female will lay her eggs in old woodpecker nest cavities in trees. The owl nests in closed-canopy forests that are at least partially composed of deciduous trees. The owls are territorial, but males will mate with more than one female and nests can be as close as 300 yards (274 m) apart.

The boreal owl has a highly developed facial disk and asymmetrical skull which aids in directing sounds made by its prey to the owls' large ears. The owl hunts at night mainly for voles, mice, shrews, and small birds. During the summer it may eat insects.

Spruce-Fir Forest

Wildlife



Blue Grouse

The blue grouse is the most common grouse of the Rocky Mountains, seen from the foothills to the timberline.

Food is comprised mainly of plants such as herb leaves and flowers, conifer needles, and shrub berries, but insects may supplement the diet, especially invertebrates in young juveniles. In winter, the grouse feeds exclusively on pine needles. In summer, it feeds on insects, seeds, and berries.

The spring display of the territorial male is an impressive sight. Perched on a stump or fallen log, the male fans its tail and produces "booms" or "hoots" by inflating and deflating the featherless yellow or purple air sacs on each side of his neck.

Nest sites vary a lot but are always on the ground or on stumps. They are usually outside male territory, perhaps to prevent additional sexual advances. Many have some sort of covering. Nests are formed by shallow depressions in the ground, often with thin linings of only dead vegetation. The nest is abandoned approximately one day after young are born. From that point on, hatchlings feed themselves.

Spruce-Fir Forest

Wildlife



Red Squirrel

The Red Squirrel is active all year, although it may remain inactive for a few days in inclement weather. They den in old woodpecker holes, tree hollows, or any other small crevices.

In conifer forests, this squirrel feeds heavily on pine seeds, leaving piles of cone remnants everywhere. In the fall, it cuts green pinecones and buries them in damp earth. Like other North American tree squirrels, this species stores food in one or more large caches (sometimes up to a bushel's worth in each) in the ground, in a hollow tree, or at the base of a tree. Other food includes nuts, seeds, birds' eggs, young birds and fungi.

Douglas Fir

Coniferous Forest Zone



Douglas fir is not a true fir, nor is it a hemlock, although its scientific name translates “false hemlock.”

“Mouse-tails” sticking out from between the cone scales give its cones a distinctive fringed appearance entirely different from any other cone. It is also distinguished from the true firs because its cones hang down and fall off whole, in contrast to the firs whose cones are upright and disintegrate when mature.

It is highly prized for Christmas trees. The twigs and needles of this tree were once used as a coffee substitute.

Elevation Range: 6,500 – 9,500 feet



Mexican Spotted Owl

The Mexican spotted owl is listed as a Federally Threatened Species

The Mexican spotted owl prefers mature and old-growth forests throughout much of its range. The most highly sought habitat characteristics include high canopy closure, high stand density, a multi-layered canopy, uneven-aged stands, numerous snags, and downed woody matter.

They eat a variety of prey including small- to medium-sized rodents, such as woodrats, mice and voles. They will also feed on bats, birds, lizards and snakes and even spiders.

The Mexican spotted owl has declined because of habitat loss and alteration. Harvest of old-growth timber stands, even-aged timber harvest systems, and wildfires have contributed to loss of habitat. The greatest threat on the Santa Fe National Forest and throughout most of the southwest is catastrophic wildfire.

Douglas Fir

Wildlife



Rocky Mountain Elk

Rocky Mountain elk inhabit most forest types with good forage and cover. These ungulates utilize a variety of habitat types, during the course of their life. They frequent forests, but are also partial to open areas in or near woodlands.

Elk were extirpated from New Mexico by 1909. In 1911, efforts to restore elk to New Mexico began with transplants near Raton and Las Vegas. Elk populations in the Sangre de Cristo and Jemez Mountains are primarily migratory herds. There are numerous small herds that come together and use the high elevation areas of the Pecos Wilderness, Jemez Mountains, San Pedro Parks and the Valles Caldera National Preserve as summer range. These small herds migrate to lower elevation winter ranges when the snows come.

The elk is primarily nocturnal, but especially active at dusk and dawn. They feed on many kinds of plants, but are primarily grazers.

White Fir

Coniferous Forest Zone



White fir is a beautiful tree and is often planted as an ornamental. It is highly prized for Christmas trees – millions are grown commercially and harvested annually.

White fir grows at lower elevations than subalpine fir, and is often found on hillsides with ponderosa pine and Douglas fir, and in canyons with blue spruce.

The wood makes a second-grade lumber.

The seeds are eaten by grouse, chipmunks, and deer.

Elevation Range: 6,000 – 10,000 feet



Clark's Nutcracker

When harsh, cold winters drive most animals into hibernation or out of the mountains to warmer climates, the Clark's nutcracker remains active at some of the highest elevations.

It seems fitting that this hardy bird was named after William Clark of the Lewis and Clark Expedition, who first saw the nutcracker in the Rocky Mountains. Clark's nutcracker is widespread throughout the western mountains where it is associated with high elevation pine forests, but moves to lower altitudes in the winter.

Like jays, the nutcracker is a common visitor at camps—probably due to curiosity as well as interest in food. Pine nuts/seeds are the most common food source. The nutcracker can hold several nuts/seeds in a special pouch under the tongue in addition to those it holds in the beak. Studies show the bird can carry up to 100 nuts/seeds at a time.

The nutcracker nests early in the year, often while snow still covers the ground, relying on stored foods. Throughout the winter, spring, and summer, the nutcracker returns to its caches to feed. In all but the harshest storms and deepest snow drifts, the nutcracker will dig through the snow to find the seeds. They have an amazing memory and return to over 1,000 seed caches throughout the year.

Aspen Woodlands

Coniferous Forest Zone



Rio Frijoles, Pecos Wilderness

There is no mistaking these trees in the fall – their dense groves turn a brilliant gold and stand out vividly for acre upon acre against the green mountainsides. At other times of the year there is also no mistaking its white-barked trunks, even in the dead of winter when its branches are bare.

Its bark is the favorite food of the beaver, who after removing it, uses the twigs and trunks for building its dam and lodge.

Elevation Range: 7,500 – 11,500 feet

Aspen Woodlands

Wildlife



Warbling Vireo

The warbling vireo is not easily seen without the aid of its persistent singing. Males sing almost nonstop in the nesting season.

The principal food of the Warbling Vireo consists of small black caterpillars, eggs of moths and butterflies, beetles, ants, scale insects, grasshoppers and flies. When searching for food, they move sideways along the twigs, now and then balancing themselves on the wing opposite their prey, and snapping it. It also eats spiders and snails in large numbers.

Aspen Woodlands

Wildlife



Mountain Bluebird

This bird is common in open mountainous country. Due to conservation of suitable nest sites (Dead trees with cavities and man-made nesting boxes), populations have increased dramatically over the past 30 years.

The bluebird's food includes beetles, particularly ground beetles, weevils, grasshoppers, crickets, ants, and caterpillars. These birds hover low over the ground and drop down to catch insects, or dart out from a branch and then return to another perch.

Ponderosa Pine

Transition (Mountain) Zone



Ponderosa pine is easily identified by its three long needles and yellowish bark. It is a valuable forest tree and furnishes more lumber than any other American tree. It grows about 150 feet tall and three to four feet in diameter. Larger trees can live for 300-500 years.

Native Americans ate the seeds, either raw or made into a bread; squirrels and chipmunks as well as birds also enjoy eating them.

Elevation Range: 6,000 – 9 500 feet



Jemez Mountain Salamander

The Jemez Mountains salamander typically occurs on shady, wooded sites at elevations of 7,200 – 9,200 feet.

They occur in and under rotting coniferous logs or under rocks on both flat areas and steep slopes. They are rarely observed on the surface or encountered under bark, surface litter, or aspen logs.

The Jemez Mountain salamander spends most of its life underground, surface activity depends upon warm temperatures and favorable moist conditions. Jemez Mountains salamanders, like all plethodontids, lack lungs and instead obtain oxygen directly through the skin. The skin is very thin and must be moist for respiration to occur, and drying out is quickly fatal.

Ants seem to be the primary food source.

Ponderosa Pine

Wildlife



Northern Goshawk

The Northern Goshawk inhabits mature forests throughout the United States, Canada and northern Mexico. In the southwest, this big raptor is mainly a resident of ponderosa pine and mixed conifer forests. It is fearless in defense of its nest and will boldly attack anyone who ventures too close.

As in most birds of prey, the female is larger and stronger than the male. On average, goshawks weigh between one and one-half to two and one-half pounds. The male supplies food while the females tends to the eggs and young. As the young grow and demand more food, both parents will hunt. Although goshawks can kill animals as large as jackrabbits, they feed mainly on grouse and smaller birds.

Because the goshawk depends entirely on extensive stands of mature forests, this species is an excellent indicator of the health of our mountain forests. Catastrophic wildfire is the greatest threat to the habitat of the Northern Goshawk.

Ponderosa Pine

Transition (Mountain) Zone



Merriam's Turkey

Merriam's turkey is found in many mountainous areas of northern New Mexico. The bird utilizes ponderosa pine, a source of mast (food: pine seeds) and its favorite roosting tree. Turkeys prefer to roost in tall mature or over-mature ponderosa pines with relatively open crowns and large horizontal branches starting at 20 to 30 feet from the ground.

Turkeys forage in grasslands, brush communities, deciduous treebrush and in ponderosa pine. The most common food sources are beetles, grasshoppers, crickets, ants, wasps, bees, flies, crayfish, spiders, snails, millipedes, centipedes, and caterpillars. Plant food is mainly seeds and wild fruit, but there is some minor use of leaves and buds, especially in winter. Turkeys are particularly fond of nuts such as acorns.

When miners and stockmen came into New Mexico in the 1800s, they started to effectively kill turkeys. Wagonloads were hauled to market. Subsequently, turkeys were eliminated from many mountain ranges, and their populations depleted in other areas. The ebb was around 1924, and efforts of the NM Department of Game and Fish began to turn the numbers around by 1930. Birds were live-trapped and moved to other areas. Transplants have adapted to the habitats on the Forest and turkeys are now widespread across the Forest.

Merriam's turkey is the largest game bird in the state, and the bird from which the domestic turkey was bred. The turkey almost became our national bird, losing to the Bald Eagle by a single vote.

Ponderosa Pine

Transition (Mountain) Zone



Hairy Woodpecker

Hairy woodpeckers are year-round residents of nearly all forest types from central Canada to the southern United States. This species is one of the most common woodpeckers in the Southwest, particularly in riparian habitats and in ponderosa pine, mixed species and spruce-fir forests. This common woodpecker of wooded backyards that announces its arrival with a sharp chirp before landed on feeders.

The hairy woodpecker is an indicator species for the presence of snags and down logs. The species is a forest generalist, keying in on available snags and live aspen.

Woodpeckers secure their food by hammering holes through the bark and then extracting grubs with their extremely long, flexible, barbed tongues. They begin their work with a gentle tapping, which helps them detect the exact location of the food. This bird is responsible for eating many destructive forest insects. Has a barbed tongue, which helps it extract insects from trees.

Ponderosa Pine

Transition (Mountain) Zone



Abert's Squirrel

Abert's squirrel is easily recognized with its long and broad ears, with conspicuous tufts. The squirrel is strictly diurnal, and is active before sunrise and returns to its nests before sunset. Abert's squirrel travels frequently from tree to tree, and can jump distances up to 8 feet between trees.

Active throughout the winter, Abert's Squirrel may remain in its nest in very cold weather, venturing out only to retrieve buried seeds, especially at tree bases where there is no snow. It buries nuts and seeds in the ground, but doesn't store any food in its nest. Seeds and the inner bark of the ponderosa pine, as well as terminal buds, staminate flowers, and piñon nuts are its chief foods, but Abert's Squirrel also eats mistletoe and other vegetable items.

Piñon-Juniper

Transition (Mountain) Zone



Forest Road 136

The widely spaced, open, mixed stands of piñon and juniper give this habitat a distinctive individuality entirely different from that of any other. In places, piñon and juniper are equal in numbers; at others, one species is dominant over the other. Usually at lower elevations juniper is more abundant, and at the higher upper limits it thins out and piñon becomes the more common tree, sometimes occurring in almost solid stands.

Terrain is usually dry and rocky or gravelly, and characterized by limited moisture.

Cacti and yuccas creep upward into the lower reaches, and scraggly ponderosa pines edge downward into the upper border along with gamble oaks.

Elevation Range: 5,000 - 7,500 feet

Piñon-Juniper

Wildlife



Pinyon Jay

Pinyon jays nest mainly in stands of piñon-juniper. Jays need open woodlands for nesting and an adequate supply of seeds, especially nuts. They are gregarious (flock) and breed in colonies up to 150. They spend the winters in large flocks of 10's or 1000's moving in search of piñon stands with a successful crop of piñon nuts that are a primary food source along with other seeds, fruits and insects.

Pinyon jays feed mainly on pine nuts, which they store in fall and consume during the winter and spring. They will also eat beetles, grasshoppers, caterpillars, and ants.

The pinyon jay is a year-round resident in New Mexico and is different from most jays in appearance as well as in its habit of feeding in large flocks.



Mourning Dove

The mourning dove occupies New Mexico as breeding resident; and can be found year round in the southern counties of the state. This species is widespread across the Santa Fe National Forest; and can be found in most habitat types. However, most use occurs in the lower elevation grassland and piñon-juniper forest type.

The dove's name comes from its mournful cooing. The mourning dove mates for life, which is about 7-10 years. This dove is one of the few birds to drink without lifting its head.

If one were to seek out the typical bird of this country, it might well be the mourning dove. It is truly American since it nests in every single state.

Gambel Oak

Transition (Mountain) Zone



Gambel oak is usually found in dense thickets, intermingling with ponderosa pine on dry hillsides and slopes and occasionally along streams. Its size is variable – from matted shrubs to low, shrubby trees.

The acorns of the Gambel oak are preferred by Native Americans because they are less bitter tasting than those of the “black” oaks. The acorns were ground into a meal and leached in water until all bitterness (tannic acid) was gone. Mush, soup, bread, and pancakes were then made, sometimes by combining the acorn meal with cornmeal.

Gambel oaks are an important browse plant for deer, they also provides shelter. If cattle feed on the leaves for too long a time, they become constipated, emaciated, and weak.

Elevation Range: 4,000 – 8,500 feet

Gambel Oak

Wildlife



Black Bear

This uniquely American bear, although primarily nocturnal, may be seen at any time, day or night, ranging in a home area of 8-10 square miles, sometimes as large as 15 square miles. The black bear is solitary except briefly during mating season and when congregating to feed at dumps.

Its walk is clumsy, but in its bounding trot it attains surprising speed, with bursts up to 30 mph. The black bear is a powerful swimmer, it also climbs trees, either for protection or for food.

Black bears are omnivores. Most of its diet consists of vegetation, including twigs, buds, leaves, nuts, roots, various fruits, corn, berries, and newly sprouted plants. In spring, the bear peels off tree bark to get at the inner layer. It tears apart rotting logs for grubs, beetles, crickets, and ants. A good fisherman, the black bear often wades in streams and lakes, snagging fish with its jaws or pinning them with a paw.

In the fall, the bear puts on a good supply of fat then holes up for the winter in a sheltered place such as a cave, crevice, hollow tree or log, or the roots of a fallen tree. Bears are not true hibernators. They are merely dormant, which means they can wake up and forage outside on warm winter days.

Remember to always "Be Bear Aware."

Sagebrush

Grassland/Woodland Zone



Big sagebrush is one of the most widely known shrubs of the Southwest. As this is one of the plants which causes hay fever, it is not universally loved, although its pungent odor is known to many, especially after a rain.

Big sagebrush is eaten by the sage grouse and small animals and is browsed by deer, pronghorn, cattle, and sheep. It played an important part in the lives of pioneers, as well: as medicine, food, and fuel. Its wood smoke is so pungent that the Native Americans used to steep themselves in it to help neutralize the effects of an encounter with a skunk.

Elevation Range: 4,000 – 10,000 feet

Sagebrush

Wildlife



Mule Deer

The mule deer prefers open, broken country, and generally avoids heavy woodlands. The mule deer browses extensively on trees and shrubs, especially in winter, but it also consumes grasses and other plants.

These deer have large ears that move independently and almost constantly and account for the common name. The males' or bucks' antlers branch equally, each a separate beam forking into 2 tines.

Mule deer are primarily active in mornings, evenings, and on moonlit nights.

Grasslands

Grassland/Woodland Zone



Santa Fe National Forest

Below 6,000 feet in the cool-temperate region of southern Utah, northern Arizona, and northwestern New Mexico several different types of native grasslands were once common.

Until the late 1800s and the coming of the railroad and the cattle industry, the only large animals to graze these lands were pronghorn antelope. It took only 10-15 years of overgrazing by cattle near the end of the last century to extensively alter these ecosystems. The native bunchgrasses, not generally tolerant of grazing, sustained high mortality when grazed heavily in spring.



Horned Lark

The only true lark native to North America. This is one of our earliest nesting birds. Even in the northern states, nests may be found in February, when the first set of eggs is often destroyed by severe snowstorms. A year-round resident, moving around in winter to find food. Larks are birds of open ground. Common in rural areas, often seen in large flocks.

The horned lark feeds on seeds and insects that it finds on or near the ground. Adult Horned Larks eat primarily weed and grass seeds, but they feed insects to their young. Females will feign an injury to lure predators away from the nest. This bird is philopatric, or faithful to its birthplace, where it returns after every migration.

The horned lark is known for the way it travels; it walks or runs instead of hopping.



Desert Cottontail

Desert cottontails occur in a wide variety of habitats, including dry desert-like grasslands and shrublands, riparian areas and pinyon-juniper forests. They may occur in the same areas as black-tailed jackrabbits.

Active early morning, late afternoon and at night, but may be seen at any time of the day. During the day, cottontails may rest in the shades of large shrubs, in burrows or within thickets. In the hot months of summer, they conserve moisture and energy by avoiding activity during the hot, dry daylight hours.

Cottontails are herbivores, and they eat a wide variety of plants, including grasses, forbs, shrubs and even cacti; however, ninety percent of their diet is grass. Cottontails will forage on domestic crops, even the bark of fruit trees. They get most of their water from either the plants they eat or dew that forms on the plants. When cottontails feed, their ever-growing incisors cut clean slices through twigs or plants at a forty five-degree angle. Other browsers, like deer or bighorn, chew the tips and create a ragged edges.

Cottontails are coprophagic, meaning they eat their own feces. Since grass is difficult to digest, the rabbits eat the first-formed set of pellets after a meal. Additional nutrition is extracted during the second digestive process. Pellets from the second set are very hard, fibrous and lack nutritive value.

Grasslands

Wildlife



Western Diamondback Rattlesnake

The Western Diamondback Rattlesnake has such a hold on the human psyche that it has been a symbol of the American Southwest from prehistoric into historic times. It can be found in ancient mythology, ceramics and rock art and in modern story and media. The Western Diamondback, which can exceed seven feet in length, is the king of our twenty odd species and sub-species of Southwestern desert rattlers, not only in terms of size, but also in terms of its fearsome reputation.

The western diamondback rattlesnake is a venomous snake. When disturbed it usually stands its ground, lifts its head well above its coils, and sounds a buzzing warning. Western diamondbacks bite hundreds of people a year, more than any other venomous snake in the United States.

The diamondback eats small mammals and birds, and sometimes other reptiles, amphibians, fish and invertebrates. It eats every two to three weeks and swallows its food whole. The food is digested as it passes through the body. Its annual water consumption is about its body weight. In very dry areas it also absorbs water from its prey.

Active in the day and at night in summer months.

Wet Meadows

Aquatic/Riparian Areas



Stewart Pothole Basin, Pecos Wilderness

Wet meadows are areas where water is the primary factor controlling the environment and the associated plant and animal life. These transitional habitats occur between upland and aquatic environments where the water table is at or near the surface of the land, or where the land is covered by shallow water.

Most wetlands are dominated by hydrophytes, or wetland plants; these can tolerate various degrees of flooding or live in frequently saturated areas. Most wetlands are characterized by fluctuating water levels and by soils that are distinctly different from those of dry, upland areas.

In the past, wetlands have been considered insect-ridden, unattractive, and dangerous areas. Today, they have begun to be recognized as beautiful places with a rich and exciting variety of plant and animal life.

Wetlands can occur within a variety of habitat types at any elevation. For example, you could have a wet meadow surrounded by an aspen forest.

Wet Meadows

Wildlife



Red-wing Blackbird

One of the most widespread and numerous birds in the state. It is a sure sign of spring when the red-winged blackbirds return to the marshes. Males return before the females and defend territories by singing from tops of surrounding vegetation. Males repeat call from the tops of cattails while showing off their red and yellow wing bars.

Red-winged blackbirds feed mostly on seeds in fall and winter, switching to insects during the summer. Although blackbirds are often considered pests because they consume grain in cultivated fields, farmers benefit because the birds consume harmful insects during the nesting season.

Wet Meadows

Wildlife



Western Terrestrial Garter Snake

This western terrestrial garter snake was found sunning itself along the banks of the upper Rio Cebolla. Even though this snake will attempt to bite if captured, it poses no threat to humans other than leaving foul smelling excrement on the captor's hands.

In New Mexico, the western terrestrial garter snake is one of the most widespread and frequently encountered snakes in the mountainous regions and higher river valleys where suitable mesic (wet) habitat exists.

The snake is carnivorous with a wide-ranging diet of fishes, frogs and tadpoles, salamanders and larvae, lizards, mice, birds, shrews, chipmunks, earthworms, slugs, snails, leeches, and insects. The snake can grow to 45-75 cm (17.7-29.5 in.) in total length. Females can grow to 90 cm (35.4 in.).

Rivers/Streams

Aquatic/Riparian Areas



Jemez River

The Santa Fe National Forest has nearly 1000 miles of streams. You will find waters that provide habitat for warm water and cold water fish.

Flowing water and currents characterize rivers and streams. The nature of individual streams may vary greatly and depends largely upon the speed at which the water flows.

The beginning, or headwaters, of many rivers and streams can be found on the Santa Fe National Forest. These headwaters begin as springs or seeps. As the water flows downhill, streams may join to form another stream or river. Eventually, the water in streams and rivers on the Santa Fe National Forest ends up in the Gulf of Mexico.



Rio Grande Cutthroat Trout

The Rio Grande cutthroat trout is the state fish of New Mexico and is one of two trout native to New Mexico. The United States Forest Service Regional Forester has designated Rio Grande cutthroat trout as a sensitive species in New Mexico. Rio Grande cutthroat trout are found primarily in clear, cold mountain lakes and streams in Colorado and New Mexico within the Rio Grande Basin. Historically the Rio Grande Cutthroat trout was the only trout occupying the streams on the Santa Fe National Forest. It occupied most stream reaches capable of supporting trout. Today, Rio Grande cutthroat trout exist only in mountain streams in the Sangre de Cristo and Jemez Mountain ranges from the headwaters of the Rio Grande to tributaries in northern New Mexico, which include the Pecos, Chama, and Jemez rivers.

The decline in Rio Grande cutthroat trout numbers in New Mexico is attributed to many factors such as introduction of non-native trout species who either prey upon or hybridize with Rio Grande cutthroat trout, dewatering of streams for irrigation, and altered stream habitat. Non-native trout introductions are the major culprit for decline of the cutthroat. German brown trout were introduced in the early 1900's. They currently occupy most perennial streams on SFNF, but are no longer stocked. They are piscivorous (eat fish) and prey upon Rio Grande cutthroat trout. This aggressive behavior limits productivity of the cutthroat and eventually leads to extirpation of the native fish in a given stream segment. Rainbow trout have been stocked in New Mexico since 1896 and are distributed throughout the state in cold-water streams and lakes. Rainbow trout hybridize with cutthroat trout and compete for food. Genetic introgression debilitates the gene pool, again limiting the productivity of Rio Grande cutthroat trout. Rio Grande cutthroat trout cannot genetically survive when mixed with rainbow trout.



Rio Grande Chub

Rio Grande chubs are a native fish found in pools of small to moderate streams near areas of current. Chubs are found in association with undercut banks, overhanging bank vegetation and aquatic plants.

Rio Grande chubs are a midwater carnivore feeding on zooplankton, aquatic insects and juvenile fish. Young probably feed on aquatic microcrustaceans, algae, and diatoms. Juvenile and adult chubs eat insects, crustaceans, and other invertebrates.



Photo by Phil Myers

New Mexican Meadow Jumping Mouse

The New Mexico meadow jumping mouse is currently listed as a state threatened species in New Mexico.

The New Mexican meadow jumping mouse prefers habitats containing permanent streams, moderate to high soil moisture, and dense and diverse streamside vegetation consisting of grasses, sedges, and forbs.

In most places these jumping mice are known to feed on fruits and seeds, but they frequently feed on insects, snails, slugs, and millipedes.

Rivers/Streams

Wildlife



American Beaver

Active throughout the year, the American Beaver is primarily nocturnal and most likely to be observed in the evening. Beavers living along a river generally make burrows with an underwater entrance in the riverbank; these are known as bank beavers. Those in quiet streams, lakes, and ponds usually build dams and a lodge.

The main materials used to construct its lodge and dams—aspens, willow, alder—are also the preferred foods. It subsists chiefly on the bark or wood of twigs, branches, and tree trunks.

To fell a tree, the beaver gnaws around it, biting out chips in a deep groove. Small trees 2 to 6 inches (50–150 mm) in diameter are usually selected, though occasionally larger ones as much as 33 inches (850 mm) thick are felled; a willow 5 inches (125 mm) thick can be cut down in three minutes. The beaver trims off branches, cuts them into convenient sizes (about 1 to 2 inches /25–50 mm thick and 6 feet/1.8 m long), and carries them in its mouth to the dam site.

The beaver is the largest rodent in North America.

Ponds/Lakes

Aquatic/Riparian Areas



Pecos Wilderness

Ponds and lakes are another type of wetland. These standing bodies of water offer another level of diversity in wetland habitats. The primary difference between a lake and a pond is size—lakes are usually deep, large bodies of water, and ponds are smaller and shallower

Ponds/Lakes

Wildlife



Tiger Salamander

The tiger salamander is the world's largest land-dwelling salamander. The Tiger Salamanders are large, robust salamanders reaching average total lengths up to 8.5 inches.

Tiger salamanders are often seen at night after heavy rains, especially during breeding season. They live beneath debris near water. They are voracious consumers of earthworms, large insects, small mice, and amphibians.

Being amphibians, tiger salamanders need water to lay their eggs in. However, fish will eat amphibian eggs and young. Temporary pools that only fill during wet weather do not support a fish population, so amphibians prefer these. External gills distinguish salamander larvae from frog tadpoles (which have internal gills).

The tiger salamander requires moist skin to survive. If its skin dries out, the salamander's respiratory system (larvae have gills, while adults have lungs) will fail.



Blue-eyed Darner

Blue-eyed darners can be found near lakes, ponds, and marshes at lower elevations.

Naiads (young dragonflies) feed on a wide variety of aquatic insects, such as mosquito larvae, other aquatic fly larvae, mayfly larvae, and freshwater shrimp. They will also eat small fish and tadpoles. The adult dragonfly will eat almost any soft-bodied flying insect including mosquitoes, flies, butterflies, moths, mayflies, and stoneflies.

Like other darners, the naiads are active predators, and are able to swim by jet propulsion - squirting water out from the ends of their abdomens. They generally take several years to mature, and when they emerge, or change into adult dragonflies, they do so at night. This behavior probably evolved to avoid being eaten by daytime predators. Adults generally fly from early June to October.

How You Can Help

- View wildlife responsibly
- Protect fragile habitats
- Pack it in, pack it out
- Respect the Rio (www.fs.fed.us/rtr)
- Volunteer for wildlife monitoring or habitat restoration projects

Each year, there are more than one million visitors to the Santa Fe National Forest. Every visitor should do what he or she can to ensure the forest continues to be a great place for generations of future visitors.

View wildlife responsibly. Always maintain a safe distance between you and the wildlife. Remember, all wildlife are wild animals. Don't get too close or try to touch them; they could harm you. Please do not feed the animals. Wildlife dependant on humans usually have to be removed or destroyed.

Protect fragile habitats. In arid regions like New Mexico, the habitat is very fragile. Please minimize foot and vehicle traffic by sticking to trails and roads.

Pack it in, pack it out. Trash left behind by careless visitors is a huge problem on our forest. Trash cans can be found at established fishing accesses, picnic areas, and campgrounds for the people who use those areas. In the rest of the forest, you are responsible for picking up and discarding your trash. This generally means taking the trash back home with you.

Respect the Rio. Our rivers are being loved to death. Please keep vehicles 200 feet (or 12 car lengths) away from rivers, wetlands, ponds, etc. If a barrier has been set up to protect an area, please respect our efforts to restore it.

If you would like to volunteer to help with wildlife monitoring or habitat restoration projects, please contact your nearest district ranger station.

For More Information

Visit <http://www.fs.fed.us/r3/sfe>

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