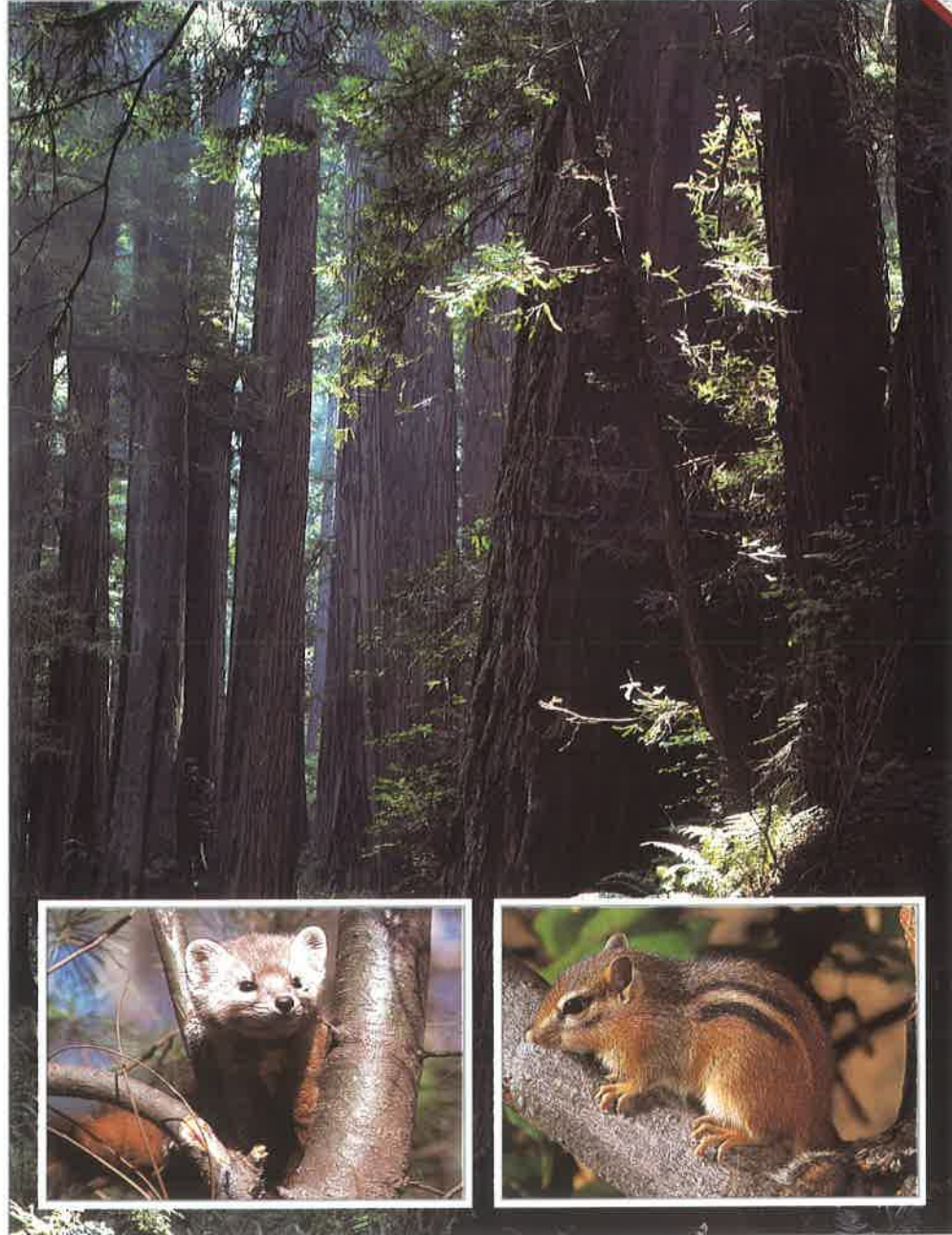


THE REDWOOD FOREST AND ITS WILDLIFE

CARD 12

GROUP 9: NORTH AMERICAN HABITATS



The redwood forests in California contain some of the world's tallest living trees. These majestic trees have reddish brown trunks that are highly resistant to disease and fire.

KEY FACTS

ORIGINS OF THE REDWOOD

The redwood probably originated 20 million years ago, and fossil remains indicate that similar giant conifers grew 160 million years ago. Before the last Ice Age, these giant trees covered what is now Asia, Europe, and North America. Most of the trees died when the glaciers moved south. After the glaciers melted only three redwood species remained.

Two *coniferous* redwood species, which keep their leaves all year, are found in California. The coast redwood grows on the coast between Big Sur and the Oregon border. The giant sequoia, or sierra redwood, grows along the western slopes of the Sierra Nevada in eastern California. The third species, the



Above: *The giant sequoia is one of the two coniferous redwoods found in the United States.*

dawn redwood, is *deciduous* (sheds its leaves each year), smaller, and grows in China.

THREATS TO THE REDWOOD

When the California coast was settled, the redwoods' size made them hard to cut down. Sawmills to handle this wood were built in the 1830s and '40s. Huge quantities of this durable wood were used to build towns, and many forest areas were destroyed.

Twentieth-century mechanization continued this destruction. By 1964 less than 400 square miles of undisturbed forest remained. The tree received protection in 1968 when 160 square miles of forest in northern California were designated a national park.



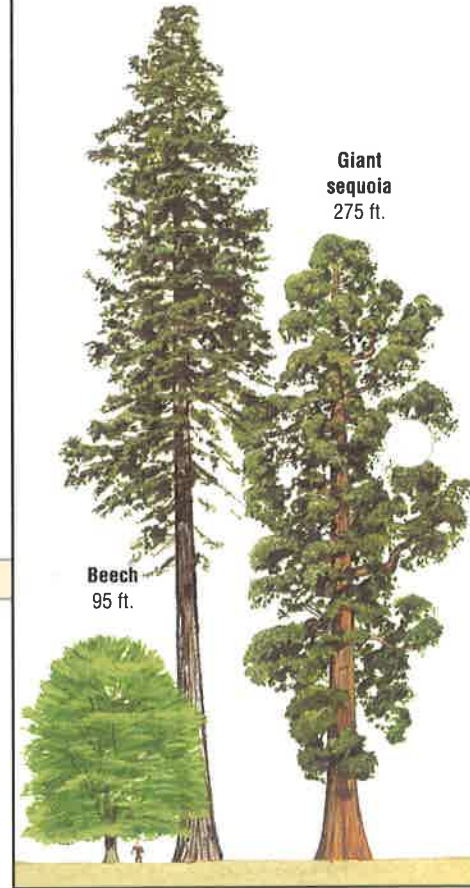
Left: *Special equipment is needed to cut down the huge trunks of the redwood.*

Right: *The only coniferous redwood forests are in California.*

THE WORLD'S TALLEST TREE

Tallest coast redwood
365 ft.

Giant sequoia
275 ft.



Beech
95 ft.



The mighty coast redwood, Sequoia sempervirens, can grow to a tremendous height—the tallest tree in existence is over 365 feet high. The age of some giant redwoods is also remarkable. There are trees living today that are more than 2,000 years old.

Within the redwood forest there are many shade-loving plants, as well as a variety of birds and mammals.

THE MIGHTY COAST REDWOOD

The lower half or two-thirds of the coast redwood's trunk is usually bare of branches. At the top is a delicate canopy of feathery green foliage. Each year the redwood releases thousands of tiny globular cones that contain seeds, but only one seedling per million survives to become a tree.

A mature redwood is resistant to both fire and disease. On the few occasions when a redwood is affected by flames,

Front insets: The chipmunk (right) is a common sight in the redwood forest, but the night-hunting marten (left) is not often seen by day.



it can rejuvenate itself, and if cut or damaged, it will quickly sprout hundreds of vigorous new shoots from its base.

In spite of its size, the redwood has a very shallow root system. The roots reach 6 to 10 feet into the soil and spread out about 50 feet. Floods are a constant threat, as the running waters can wash away soil between the tree's roots, leaving it vulnerable to being blown over by the wind. On the other hand, a flood can be beneficial, adding fresh soil around the tree's base. When this occurs, the redwood grows new roots closer to the surface.

BIRDS

High in the redwood forest, ravens and crows squabble loudly. They are joined by the Steller's jay, which steals eggs and newly hatched young out of the nests of other species. It keeps its own nest hidden in the forest, returning to it only at dusk to prevent it from being discovered by predators.



The marbled murrelet is a very different bird that spends the day on the nearby Pacific Ocean, diving for food. But at night this small, stocky seabird nests high up among the redwoods' branches.

Right: The banana slug feeds on the dead leaves and debris that cover the redwood forest floor.



PLANTS

At the edge of the redwood groves, the giant trees are surrounded by mixed forests of evergreen and deciduous trees such as the California rosebay (a species of rhododendron) and scented azaleas. Vine maple spreads abundantly along the forest floor, taking root wherever a node touches the ground. Poison oak spirals around redwood trunks with its leaves turned upward.

Many species of mushroom and other fungi grow in the shade of the redwood, including the poisonous red and white fly agaric. A wide variety of ferns also flourish, from the delicate maidenhair, which covers the banks of streams, to the more robust sword fern, with its long, pointed fronds.

During spring and early summer the ground surrounding the base of the redwoods is covered with trillium, a member of the lily family, with delicate white blossoms that fade to dusky pink. Redwood sorrel blooms with pinkish purple flowers in spring. Its clover-shaped leaves open wide during the day and roll up tightly at dusk.

Left: The Steller's jay is one of the successful predators in the redwood forest.



MAMMALS

The redwood forest and the mixed forests surrounding it are home to many mammals, including the California black-tailed deer, tiny shrews, and Douglas squirrels. The largest inhabitant of the redwood forest is the Roosevelt elk, which once ranged throughout North America. Today it is found mainly in the national parks on the Pacific coast.

Left: The Roosevelt elk finds a haven in redwood forests and their surrounding areas.

The predatory marten visits the redwood forest at night to hunt along tree branches for the chipmunks and birds that abound in this habitat. Other night hunters include the long-tailed weasel, wolverine, and badger. Both striped and spotted skunks also hunt at night, but they may hunt during the day if food is scarce.

Right: The Douglas squirrel, or chickaree, is a species of red squirrel.

WILDLIFE IN THE HOME

CARD 10

GROUP 9: NORTH AMERICAN HABITATS



A few hundred years ago people lived with all kinds of wildlife in their homes. Today, modern houses are supposed to be free of such visitors—but they are not.

KEY FACTS

CONDITIONS FOR WILDLIFE IN THE HOME

With modern standards for cleanliness, we may think that the only animals with whom we share our homes are our pets. In fact, the home is an attractive habitat for less welcome guests.

Central heating allows pests to breed more frequently by providing them with warmth throughout the year. Leftovers and crumbs make a good food supply. Exotic house plants encourage plant pests, yet many people mistakenly discourage the spiders that kill these pests.



Left: The death-watch beetle gets its name from its habit of tapping on wood beams at night, which was once believed to be an omen of death in the house.

Not everything is perfect for home-dwelling pests. Central heating makes the air dry; humans disturb the environment, and the vacuum cleaner spells disaster. Powerful insecticides may be used in the home to

get rid of pests.

Some organisms have adapted to the worst conditions: the carpet beetle and clothes moth do not need moisture since they get all they require from their food.

ANIMALS THAT INHABIT THE HOME

Creature	Where Found	Damage Caused
Algae	Wet window frames	Green growth
Ants	Food areas	Damage to food
Athlete's foot fungus	Bathroom floor	Peeling skin on feet
Aphid	Plants	Sucks plant juices
Bat	Attics	None
Bedbug	Plaster cracks, behind wallpaper	Parasite: sucks blood
Book louse	Damp places	None: eats mold on books
Bread beetle	Food	Larvae eat seeds, spices, cereals
Brown rat	Sewers, drains, landscaping	Carries disease, damages wiring
Carpet beetle	Carpets	Larvae chew fabric
Cheese mite	Cheese rind	Allergy
Clothes moth	Closets, attic	Larvae chew fabric
Cockroach	Food storage	Damages food, leaves droppings
Dry rot fungus	Wet timbers	Damage to wooden structures
Dust mite	Household dust	Allergies, asthma
Flea	Pets, carpets	Parasite: sucks blood
Flour weevil	Cereals	Eats flour and grain
Furniture beetle	Wood	Larvae (woodworm) eat wood
House fly	Sweet foods, rotting meat	Taints food with droppings
House martin	Nests under eaves	None: but may carry moth larvae
House spider	Throughout house	None: predator of house pests
Lacewing	Attics, window frames	None: hibernating
Ladybug	Attics, window frames	None: hibernating
Mold fungus	Damp food	Produces toxins
Wood louse	Cellars, damp woodwork	Little: eats rotten leaves, wood

Conditions in the home provide an ideal environment for many forms of wildlife. Some of these animals thrive without our even being aware of their presence, while others are more obvious. Some animals, such as the spider, are actually helpful and kill many of the more harmful pests.

MAMMALS

The home is an attractive environment for mice, rats, and bats. The house mouse hides in holes—even between the walls of the refrigerator—and comes out at night to gnaw through food packages and vegetables, leaving behind small, black droppings.

The scratching sound in the attic is likely to be mice. They sound harmless enough but carry disease and may chew electrical wiring, causing a potential fire risk. Since mice can give birth every three weeks and do not hibernate, their populations can grow quickly, as can the brown rat population.

The rat usually lives near humans, scavenging stored food or waste. The black rat carries a flea species that once

Right: The lesser horseshoe bat may find its way into a loft through a broken window.

transmitted the bubonic plague to humans. The more common brown rat, though a disease carrier, is less dangerous.

The bat must have a clean and draft-free roost site. Modern houses provide a summer roost for some bats. They can squeeze behind roof shingles and weatherstripping. Colonies numbering up to 150 bats may be seen flying at dusk on summer evenings. Only their droppings reveal their roosting site.

Other bat species inhabit older houses. Occasionally a bat flies in through an open window, but it usually leaves the same way.



Left: The brown rat avoids people and is more likely to live in outbuildings than in the home.

Right: The spider gets rid of harmful visitors in the home, like the fly.

FUNGI

Spores of the penicillium mold are always in the air and ready to grow on damp food. This blue mold is harmless and is added deliberately to certain cheeses to give them flavor. Other less desirable molds also grow on food—even food that has been

placed in the refrigerator.

Dry rot fungus damages wet wood. There is no sign of it until the rot is severe and has spread to the wood's surface.

Right: The wood louse scavenges rotting vegetation and wood, but does little damage.



Left: The house fly carries bacteria on the hairs covering its legs and body. It also taints food—later eaten by humans—and spreads disease.



INVERTEBRATES

A surprising number of insects and other small animals share our homes. One of the few predators is the house spider.

The spider's eight eyes give it good vision for catching its prey, which it paralyzes with venom from its fangs. Killing spiders and brushing away their cobwebs allows the more harmful insects that they prey on to survive.

The silverfish is a primitive wingless insect found in damp parts of the house. It eats starchy foods, including the glue in book bindings and food packaging. Book lice feed on mold growing on old papers; they are harmless.

The dust mite is invisible to the eye, but it occurs in large

numbers, feeding on dead skin cells in household dust. It causes allergic reactions and asthma, particularly when found in bedding. Fleas, bedbugs, and body lice have become rarer, but fleas living on cats and dogs still bite humans. Head lice thrive on blood sucked near hair roots.

The ant scavenges table scraps or poorly stored foods, as well as sweets. The cockroach is also a scavenger, eating food scraps and leaving droppings, but it is seldom found in clean, modern houses. It is still found in warehouses, school kitchens, and restaurants, where it lives in ventilation ducts and comes out at night.

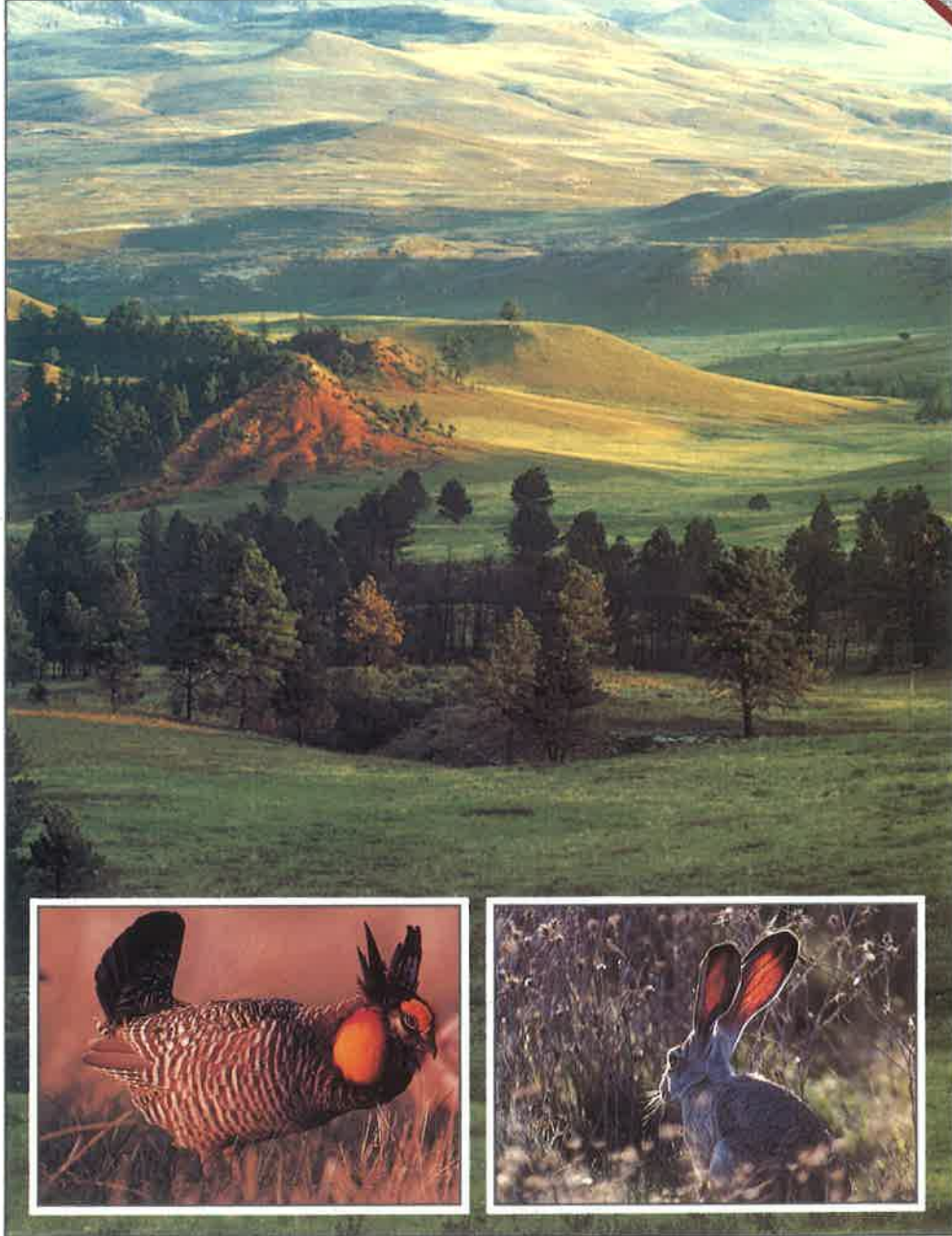


Left: The carpet beetle, a ground dweller, finds the home a dangerous environment. A vacuum cleaner can be fatal to both the adult and its fabric-chewing larvae.

THE NORTH AMERICAN PRAIRIE AND ITS WILDLIFE

CARD 7

GROUP 9: NORTH AMERICAN HABITATS



The prairies of North America stretch from Canada to the Gulf of Mexico. Once teeming with huge herds of bison, little of the original prairie has survived the growth of farming and ranching.

KEY FACTS

THE BISON—A SYMBOL OF THE PRAIRIES

Numbering about 60 million in the eighteenth century, by the 1900s the bison population had been hunted down to about 1,000.

The plains Indians who relied on bison meat and skins for every necessity of life killed relatively few animals and did not impact the bi-

son's survival. But the coming of settlers meant that millions of bison were killed for sport and food.

Twentieth-century breeding and protection efforts have brought the bison's numbers back up to about 50,000.

Right: *A bison braves the winter in Yellowstone National Park.*



CLIMATE

Because the prairies are so vast, the climate can be extreme. In summer, conditions are similar to those of the hot African grasslands, while chill winds, frost, and drifting snow are usual winter weather.

On the Canadian prairies, for example, there may be

a 120° difference between summer and winter temperatures.

Little rain and strong winds are major factors of the prairie's landscape. Winds promote evaporation, which reduces humidity—essential for trees. High winds also weaken saplings and prevent

them from competing with low-growing vegetation, such as grasses that are anchored by deep roots.

In the 1930s, the prairie weather became increasingly hot and dry and much of the tall grass died, forcing animals to travel long distances to find food.



Clockwise from left: *Springtime in Texas; summer grasses on the plains; winter frost in Yellowstone National Park; autumn in South Dakota.*



The prairie grasslands are home to a wide range of animals and their predators.

Rodents, reptiles, invertebrates, and insects live among the grasses, and birds swoop down in search of smaller creatures.

THE PRAIRIE LANDSCAPE

The prairies stretch for about 1,800 miles from southern Canada to southern Texas, and from the Mississippi River west to the Rocky Mountains.

The rich and fertile soil of the prairie once supported vast

Front inset left: *The greater prairie chicken.*

Front inset right: *The black-tailed jackrabbit.*

areas of rolling grassland but are now used primarily for ranching.

Types of grasses making up the prairie landscape change from area to area. The tall grasses of the eastern area are switch or panic grass, big bluestem, and sough grass. These grasses grow three

inches to one foot high in meadows dotted with an occasional tree such as oak.

Farther west, there are fewer trees and the tall grasses are mixed with short grasses such as little bluestem. In Texas, species of setaria grass flourish. In Texas's warm climate, there may be as

ANIMAL LIFE OF THE PRAIRIES

Many of the prairie's larger animals have been replaced by grazing domestic herds. Still, the prairies support many varied species. The pronghorn was once found in as large a number as the

bison was. It now lives primarily in protected prairie reserves.

The prairie dog lives underground in a network of tunnels and chambers, coming out during the day to feed.

many as 200 species of flowering plants growing in 600 acres of prairie while further north the same space may only support 50 species.

Trees and shrubs are scarce on the prairies, but a variety of low-growing and flowering plants are abundant.

Its many predators include the coyote, the black-footed ferret, the fox, and the golden eagle.

The most common prairie animal, Richardson's ground squirrel, has adapted well to

heavily grazed areas. Widespread, too, are the prairie vole, the plains pocket gopher, muskrat, both the black- and the white-tailed jackrabbit, and the prairie rattlesnake.

PRAIRIE BIRDLIFE

Because of widespread habitat damage due to huge herds of grazing cattle, typical prairie birds such as the greater prairie chicken and the masked bobwhite are declining in number.

Still, many birds such as the

lark bunting and the bobolink thrive on the heavily cultivated land of the prairie, as do larger birds like the golden eagle, the red-tailed hawk, and the prairie falcon. They prey on small birds, insects, and small mammals.

KEY TO SPECIES

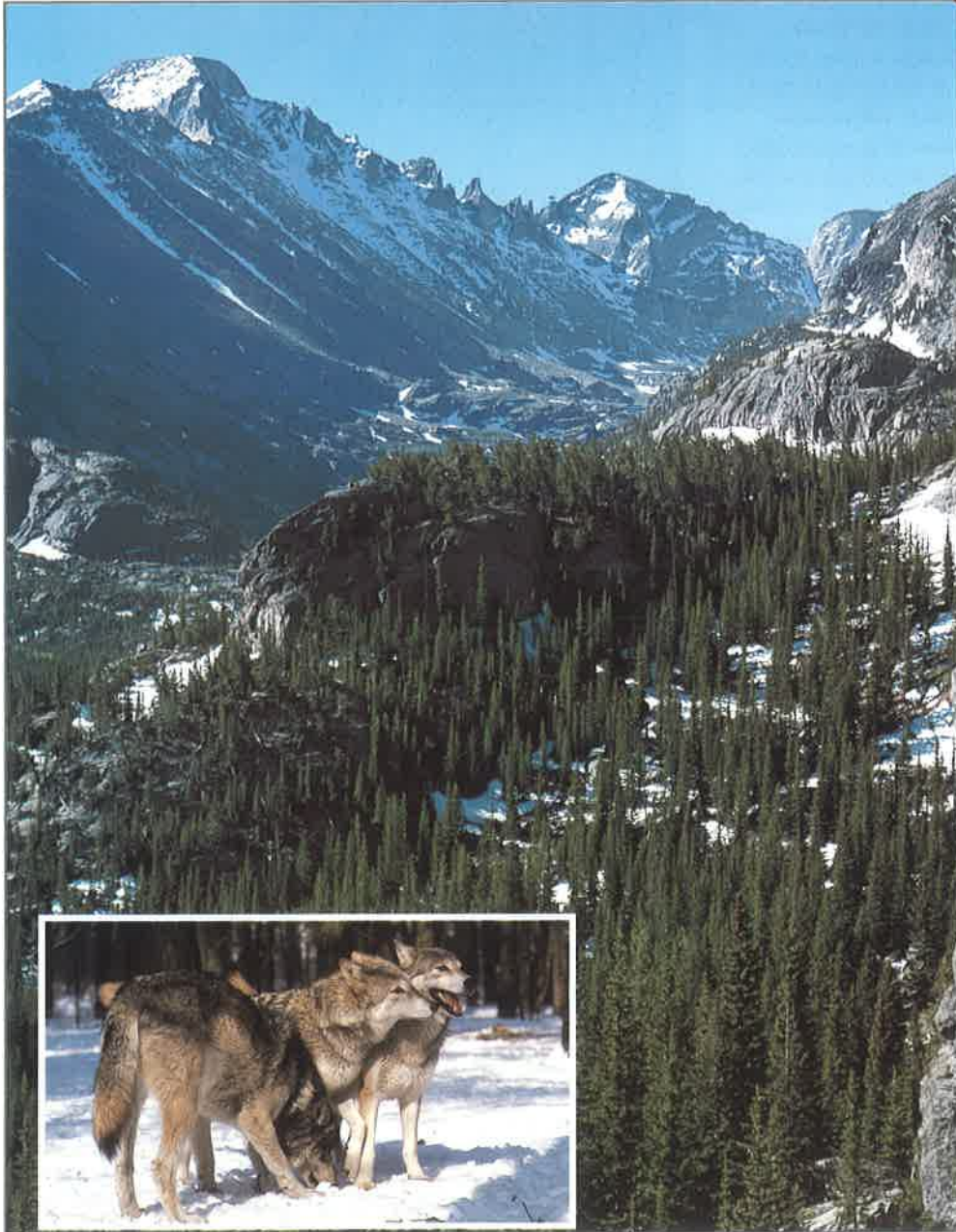
- 1 Golden eagle
- 2 Red-tailed hawk
- 3 Black-tailed jackrabbit
- 4 Richardson's ground squirrel
- 5 Black-footed ferret
- 6 Bison
- 7 Bull snake
- 8 Masked bobwhite
- 9 Prairie falcon
- 10 Pronghorn
- 11 Prairie dog
- 12 Greater prairie chicken



THE ROCKY MOUNTAINS AND THEIR WILDLIFE

CARD 5

GROUP 9: NORTH AMERICAN HABITATS



The awesome Rocky Mountains form the Continental Divide in the western United States and Canada.

They are called the backbone of North America.

KEY FACTS

ROCKY MOUNTAIN WILDLIFE

MAMMALS: Grizzly bear, black bear, brown bear, pronghorn, bighorn, lynx, coyote, wolverine, muskrat, marten, porcupine, red squirrel, gopher, pika,

jumping mouse, lemming mouse, raccoon, chipmunk, flying squirrel, jackrabbit, elk (wapiti), beaver, wolf, mountain goat.

BIRDS: Western bluebird,

hermit thrush, brown creeper, pine grosbeak, gray jay, western screech-owl, sage grouse, golden eagle.

REPTILES AND AMPHIBIANS: Rattlesnake, salamander.

ROCKY MOUNTAIN RESOURCES

WATER: Water is in short supply in the Rockies, especially in the south, where the climate is dry. Many reservoirs have been built, but few suitable dam sites are left and it may be necessary to import water from the Columbia River and western Canada.

OIL AND GAS: Wyoming,

New Mexico, Montana, Colorado, and Utah all have oil and gas fields in the Rockies.

COAL: The Rockies contain the Western Hemisphere's richest coal reserves, and coal is a common energy source.

METALS AND NONMETALS: Copper and iron ore are mined extensively in the

Rockies. There are also silver, gold, lead, and zinc mines. Nearly all of North America's uranium is produced in the Rockies. Nonmetallic reserves include potash, magnesium, gypsum, limestone, and dolomite.

Below: Mount Robson in Canada is part of the Rocky Mountains.



The enormous peaks and deep valleys that make up the Rocky Mountain range stretch more than 3,000 miles, from icy Alaska to warmer New Mexico. They are home to a wide variety of plants and animals.

FEATURES

For mountains, the Rockies are relatively young. They were created by changes in the earth's crust about 65 million years ago, at the end of the Cretaceous period.

The Rocky Mountain system is divided into four sections: the Arctic Rockies, northern Rockies, middle Rockies, and

southern Rockies. These areas vary in height from 1,000 to 15,000 feet and in width from 100 to 400 miles. As a whole, the Rocky Mountain range is made up of many tall peaks, plateaus, and, in the far northwest, low hills. Much of the range is now protected as national park.

MAMMALS

The animal species found in a given area of the Rockies depends on the elevation and latitude. The wolf, for example, is found only in the Arctic Rockies, and the caribou lives only in the Arctic and northern Canadian Rockies. Animals living at high altitudes include deer, bears, antelope, foxes, elk (wapiti), moose, marmots, and bighorn sheep. Coyotes, jackrabbits, and prairie dogs can be found at lower elevations.

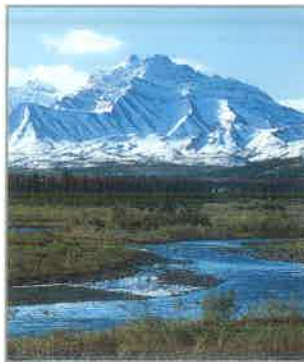
With their abundance of grizzly bears, moose, and bison, the Rockies once attracted many hunters. Now hunting is strictly regulated to protect the wildlife.

Front cover: *Rocky Mountain National Park in Colorado.*

Front cover inset: *Timber wolves in the Canadian Rockies.*

VEGETATION

In the Rockies the *tree line* (the highest altitude at which trees will grow) ranges from 2,500 feet in the icy Yukon territory to 12,000 feet in more temperate New Mexico. Just below those areas



that are covered permanently with snow, the forests are made up of pine, spruce, and fir trees. At lower elevations they also include birch, beech, and cherry trees.

Knee-high willows cover much of the Arctic Rockies, and mature willows and cottonwoods grow beside streams. Above the tree line, lichen, saxifrage, columbine, larkspur, and other alpine plants abound.

Left: *Denali National Park in the Alaskan Rockies.*

Below left: *A marmot perches on a ledge overlooking the Rocky Mountains.*



BIRDS

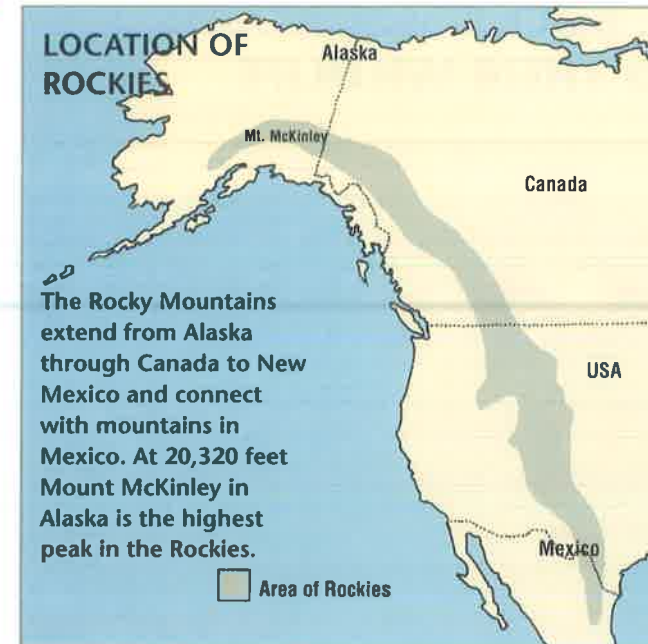
Many birds in the Rockies are migratory. In winter they include three-toed woodpeckers, white-tailed ptarmigan, and certain finches. In summer various thrushes, finches, sparrows, wrens, and hummingbirds arrive. Permanent residents include the mountain bluebird, the pine grosbeak, Swainson's thrush, and the western screech-owl.



Above: *The Rockies divide the continent into westward- and eastward-flowing waters.*

Left: *A male mountain bluebird carrying a morsel of food returns to its nest in the Rocky Mountains of Colorado.*

Below: *The bighorn lives on the steep slopes of the Rockies at high altitudes.*



The Rocky Mountains extend from Alaska through Canada to New Mexico and connect with mountains in Mexico. At 20,320 feet Mount McKinley in Alaska is the highest peak in the Rockies.

Area of Rockies

ROCKY MOUNTAIN NATIONAL PARK

Rocky Mountain National Park is a beautifully preserved 580-square-mile wilderness area located in north central Colorado. It contains glaciers, lakes, streams, waterfalls, and more than 100 peaks 10,000 feet or higher.

The tree line is 11,000 feet above sea level, and in summer the entire park is ablaze with wildflowers.

Animals living in the park

include beavers, deer, black bears, bison, mountain lions, bobcats, and coyotes. It is one of the few places where you can see flocks of bighorn (mountain sheep) in their native habitat.

A number of trails crisscross the park, but there are very few roads. Although there are a few cabins and campsites, it is an almost totally natural environment.

THE MISSISSIPPI RIVER AND ITS WILDLIFE

CARD 3

GROUP 9: NORTH AMERICAN HABITATS

KEY FACTS

IN THE BAYOU

The appearance of a *bayou*, or creek, depends on the amount of water in the area. Some bayous are as broad as small rivers; other bayous are narrow enough for Spanish moss on bankside trees to form a canopy above them. In northern areas with low water levels, black willows and cottonwood trees grow along bayou banks, while hardwood trees such as red oak and hickory flourish nearby.

Further south, the land level is below the water level, so the bayous become swamps. These areas are densely covered with bald cypresses and tupelo gum trees. The water surface is green with duckweed, which is one of the world's smallest flowering

plants. Close to the Gulf of Mexico, bayou land is marshy.

BAYOU WILDLIFE

The alligator was hunted almost to extinction earlier this century. Now it is protected, and its population is gradually increasing. Other bayou animals include the squirrel, swamp rabbit, raccoon, nutria, and muskrat. There are many snake species, including the copperhead and coachwhip. Bullfrogs, green frogs, and cricket frogs come out at night. Great egrets inhabit the marshes near the Gulf of Mexico. In winter blue geese and snow geese arrive.

Right: *The Mississippi River starts in north Minnesota and flows 2,400 miles to the Gulf of Mexico.*

A DEADLY FLOWER

Hibiscus, spider lilies, and wild irises are colorful bayou flowers, but water hyacinths are even more spectacular. Introduced to New Orleans as an ornamental plant in 1884, the water hyacinth spread rapidly. Dense layers of water hyacinth now stretch across

many bayous. Though pretty, the plant endangers wildlife by clogging the waterways, choking other plants, and depriving water creatures of essential sunlight.

Water hyacinths reproduce by seed and by root offshoots. They can double in number every two weeks, even though 95 percent of their seeds lie dormant and do not germinate for up to 20 years. The water hyacinth is very difficult and expensive to control.



Left: *The water hyacinth blocks sunlight from vegetation and animals in the bayous.*



The Mississippi River is one of the world's great commercial waterways. It flows from Minnesota to the Gulf of Mexico, through cotton fields, swamps, and marshland.

The Mississippi River feeds hundreds of smaller waterways as it flows through Louisiana.

These waterways in turn provide habitats for many animal and bird species. Today, the entire area is threatened by chemical pollution.

Another danger comes from the fast-growing water hyacinth, which blocks sunlight.

ORIGINS

Together, the Mississippi River and the Missouri River, one of its tributaries, form the third longest river system in the world, flowing for a total of 3,700 miles. Other main tributaries include the Ohio and Arkansas rivers. Originating in northern Minnesota, the Mississippi flows nearly 2,400 miles to the Gulf of Mexico. It empties some 800 billion cubic feet of water into the Gulf each year.

Steamboats have navigated the Mississippi since the 1820s, and today this river is one of the world's busiest commercial waterways. Its lower parts are subject to serious flooding, and

its banks are strengthened by artificial embankments called levees. Natural levees form when the river overflows and sediment builds into a ridge.

In Louisiana the Mississippi feeds hundreds of small waterways called *bayous*. The name comes from *bayuk*, which is the native Choctaw Indian word for "creek."

The Mississippi drains into the Gulf of Mexico through the Atchafalaya River. This river acts as a *distributary* (an outlet that drains a larger river into the sea). As these two rivers approach the sea, the land becomes mostly freshwater swamp and saltwater marsh.

Right: The great egret breeds in the Mississippi marshlands.

Front inset left: A bullfrog hides in a marshy bank.

Front inset right: The nutria feeds on riverbank vegetation.



Left: An alligator defends its brood on the flood plains.



Right: Red-winged blackbirds nest in dense reeds along the Mississippi riverbank.



WILDLIFE OF THE MISSISSIPPI

One of the Mississippi's most unusual inhabitants is the paddlefish, which has a spatula-shaped snout. This fish gathers plankton by swimming close to the surface with its mouth wide open. Paddlefish may have existed 80 million years ago. They were once common in the Mississippi valley, but commercial river traffic has made them scarce.

The alligator gar is a 10-foot-long fish that has armored scales and huge jaws with sharp, closely set teeth. It preys on all kinds of water life, in-

cluding small- and medium-size alligators. The huge fish waits motionlessly for prey to pass and then lunges, crushing its prey with its jaws.

On the riverbed the alligator snapping turtle lies in wait for fish. A brightly colored lure attached to its tongue entices prey into its mouth.

Birds on the river include the great blue heron, the purple gallinule, the red-winged blackbird, and the pied-billed grebe, whose bill is specially adapted for catching crayfish. The brown pelican, Louisiana's state bird, is endangered because of heavy pesticide levels in the fish it eats.

THE FERTILE DELTA

For most of its length, the Mississippi is a wide and fast-flowing river that carries a large quantity of *alluvium* (particles of rock, sand, silt, and clay). As the river nears the sea, the water begins to slow down and alluvium deposits are left behind. Over time the sediment has built up and forced the water into a series of channels that fan out toward the sea in a tri-

angular shape called a *delta*.

The alluvium deposited over the Mississippi's flood plain has created rich, fertile land that is perfect for growing cotton. The coast is rich in marine life, and the flood plain supports many different bird species, including the great egret.

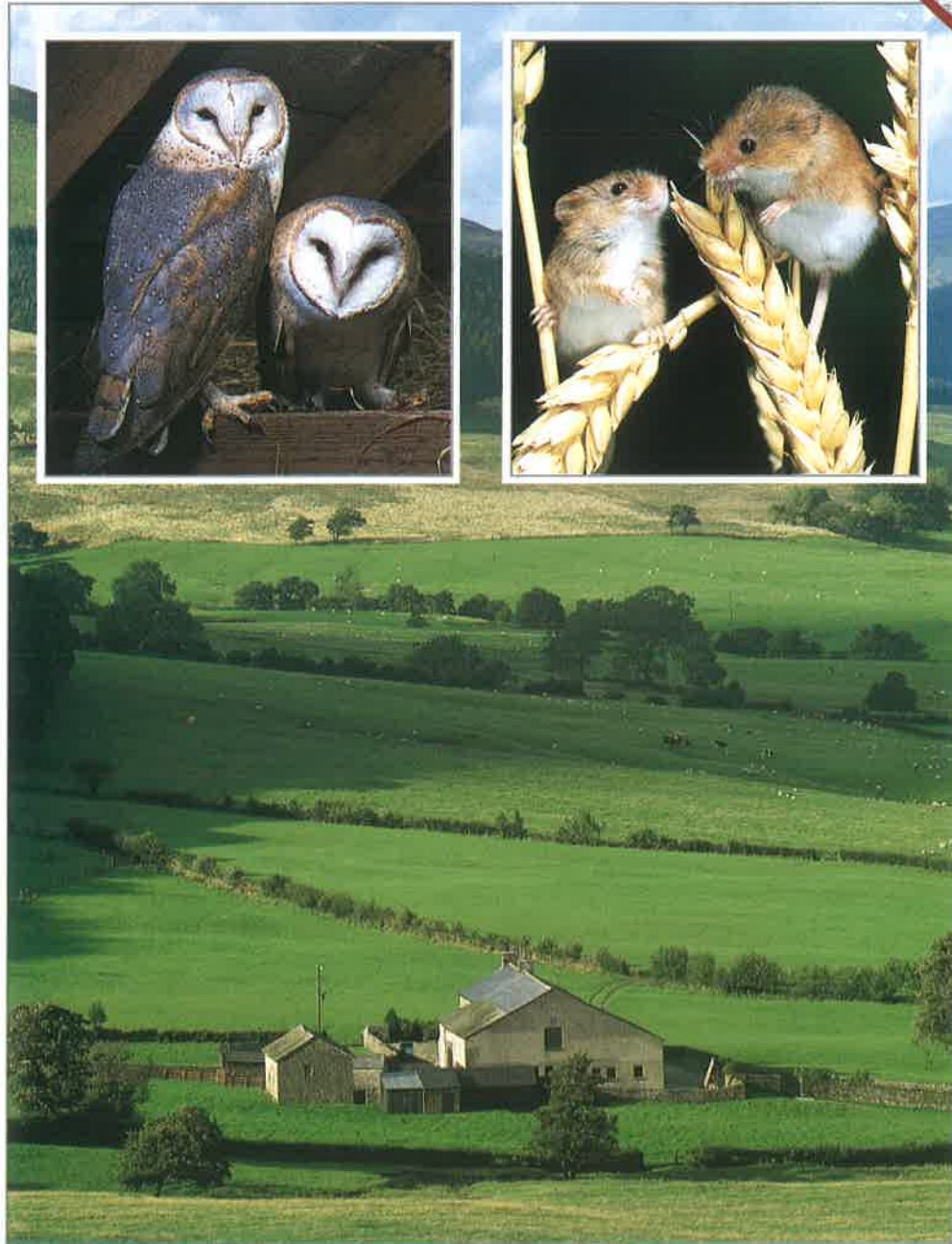
Right: The alligator snapping turtle eats anything it can catch with its hooked jaws.



THE FARM AND ITS WILDLIFE

GROUP 9: NORTH AMERICAN HABITATS

CARD 2



Wildlife has always used farms for food and shelter. But in the last 50 years, modern farming practices have forced many of these animals to find new homes.

KEY FACTS

THE MODERN FARM AND ITS EFFECT ON WILDLIFE

Habitat destruction

Modern farming methods have resulted in the destruction of habitats that had supported wildlife for centuries. An area of heavily farmed *arable* (fertile) land supports less wildlife today than an equal area of urban land does.

Unlike the once-common, small, mixed-use farm, the modern farm uses farming methods that change too rapidly for local wildlife to adjust. Drainage systems that enable more farmland to be cultivated are destroying wetland areas that provided habitats for birds and butterflies.

Specialization in one type of crop or livestock has increased the use of chemical herbi-



Left: Heavy equipment destroys field mammals.

Below: New farming techniques require extensive use of chemicals.



Left: Huge single-crop fields do not have the variety of vegetation needed to support stable wildlife habitats.

cides, pesticides, and fertilizers, making wildlife habitats unlivable. The enlargement of field areas and use of huge equipment have led to the destruction of the shrubs and trees that once contained abundant animal and plant wildlife.

Caring for wildlife

An increasing awareness of the benefits of *organic* (chemical-free) farming has resulted in the recent growth of small farms. Many farmers actually encourage some species of wildlife to live on these farms. By deliberately not cultivating strips of land along the edges of fields and under natural shrubs, these farmers are creating new habitat corridors for wildlife.

Right: Farmland ponds, such as this one, are once again being encouraged to flourish.



Farming's patchwork fields and barnyard

animals have almost disappeared.

Modern farming techniques have had a great impact on the surrounding countryside and its inhabitants. But a recent return to organic farming has helped a variety of wildlife become reestablished.

MAMMALS

Farmers once widely considered the rabbit to be a pest, even though they used the animal's skin and ate its meat. But today, rabbits are again becoming common on farms. And foxes still live around the edges of farms, where they scavenge and feed on rabbits and chickens.

Small mammals such as the

common shrew are becoming rarer in open farmland because of habitat loss. The use of huge harvesting machinery also kills many field mammals, including the harvest mouse. This rodent is now more commonly seen along roadsides, where the vegetation that it needs to survive still flourishes.

BIRDS

Farm buildings provide both permanent and temporary nest sites for many species of birds, especially swallows and house martins. The predatory barn owls use barns and other large buildings for both roosts and nest sites. But these birds are becoming rare as a result of the reduction of the small mammal

populations on which they feed. Also, many barns have recently been converted into housing.

Shrubbery provides food and shelter for a variety of birds. Colonies of crows nest in tall trees, favoring elm and oak, which are also home to pigeons and doves.

Once common, the partridge's numbers are now declining in areas of large-scale farming. Crop stubble burning after harvest, the use of pesticides, and the loss of natural shrubbery are all contributing factors to its decrease.

Some birds pick up worms from freshly plowed soil.

INSECTS

In spite of the heavy use of chemicals in modern farming techniques, insect life remains abundant on farms. Just beneath the surface of cultivated soil are worms and various species of beetle.

Cockroaches are common in farm buildings. Beetle larvae eat cereal crops, while the adults cause damage to fruit trees.

Front cover inset left: Nesting barn owls. Right: Harvest mice nibble on crops.

PLANTS

Outlying farm shrubbery contains a variety of trees and bushes. Many hedges mark land boundaries that have existed for hundreds of years.

Shrubbery provides protection from the wind for the fields. But it also supports hundreds of plant species that provide food for the butterflies of this habitat. Small mammals use the shrubbery to

hide from their predators and to build their dens.

In spite of the widespread use of chemicals, large equipment, and new harvesting methods, some wild-flowering plants survive and even flourish from year to year. For example, poppies and daisies add bright splashes of color to the landscape.

KEY TO SPECIES

- 1 Crane fly
- 2 Beetle
- 3 Cockroach
- 4 Earthworm
- 5 Swallow
- 6 Tortoiseshell butterfly
- 7 Finch
- 8 Rabbit
- 9 Hare
- 10 Crow
- 11 Partridge
- 12 Fox
- 13 House martin
- 14 Blackbird
- 15 Common shrew
- 16 Peacock butterfly
- 17 Yellowhammer
- 18 Harvest mouse

