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THREATENED AND ENDANGERED SPECIES OF COLORADO

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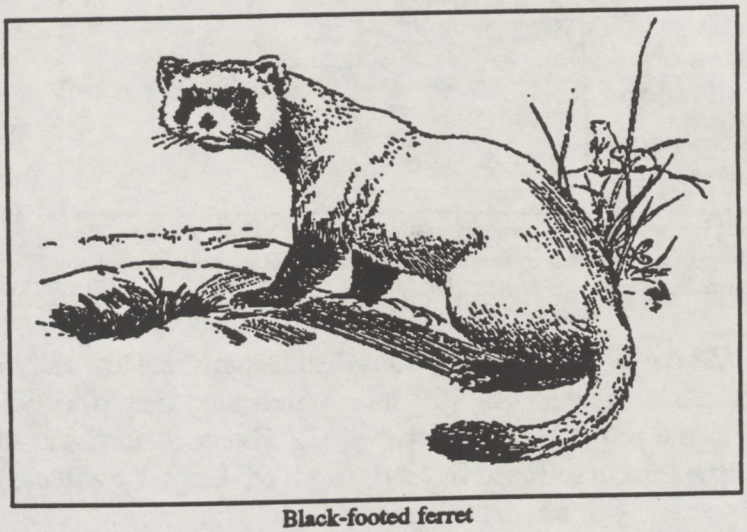
A fact sheet prepared by the Colorado Division of Wildlife
July 1993

BLACK-FOOTED FERRET



Black-footed ferret

Thought to be the rarest mammals in North America, black-footed ferrets have very likely disappeared from Colorado. The last confirmed record of the animal in the state dates back to 1946.

Listed as endangered in 1967, black-footed ferrets are members of the weasel family. Comparable to minks in size, they are 20-24 inches long, including a 6-inch tail, and weigh about two pounds. Often confused with long-tailed weasels or domestic European ferrets, American black-footed ferrets can be identified by the distinctive black mask over their eyes. They are yellowish brown above, with a blackish wash on their backs. They also have black feet and black-tipped tails.

Black-footed ferrets prey primarily on prairie dogs, and their traditional habitat is open grasslands and shrublands where prairie dog towns flourish. They once ranged throughout the Great Plains and in Colorado, from the eastern plains to mountain parks and western valleys.

DECLINE OF THE SPECIES: Although black-footed ferrets lived throughout Colorado, they were probably never very common. They are preyed upon by eagles, owls, badgers, bobcats and coyotes, but it was the hand of man that likely brought the species to the brink of extinction. The conversion of prairie habitat for farming and ranching and widespread poisoning of prairie dog towns during the West's expansion decimated ferret populations. By the 1950s, few ferrets existed.

A small group was discovered in South Dakota in 1964, and a few were taken into captivity in 1971. They died of old age and disease and never bred. By the mid-1970s many thought ferrets were either extinct or so scarce that natural disasters or disease would eliminate whatever populations had survived. Then, in 1981, black-footed ferrets were discovered on a ranch in Meeteetse, Wyo. An outbreak of canine distemper killed nearly all of them, and the

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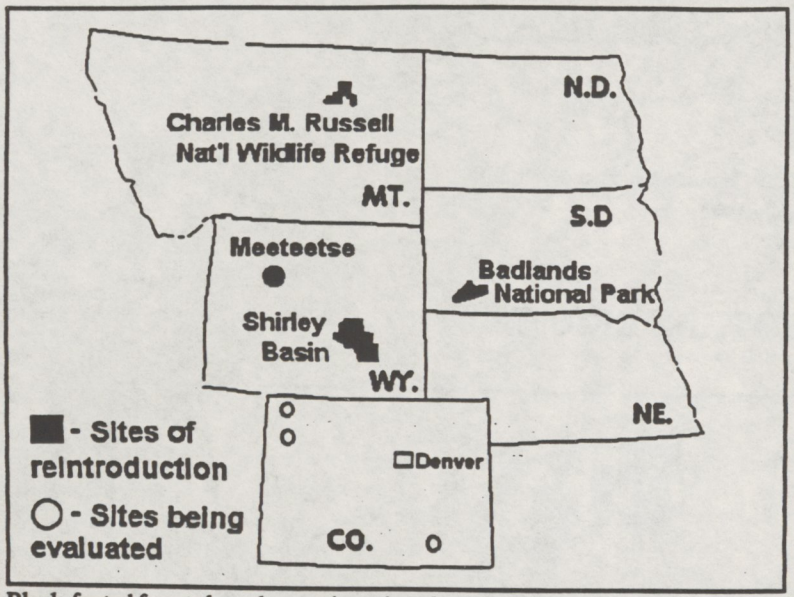

Black-footed ferrets have been reintroduced to Wyoming's Shirley Basin. Other releases are planned for areas in South Dakota and Montana. Release sites are being evaluated in Colorado. (WRIS 1993.)

remaining 18 were taken into captivity between 1985 and 1987, becoming the basis of a successful breeding program.

CURRENT STATUS AND PLANS FOR RECOVERY: Although there have been reliable reports of black-footed ferrets in northeastern Colorado in recent years, no sightings have been confirmed. Black-footed ferrets have been reintroduced in Wyoming's Shirley Basin where 49 ferrets were released in 1991 and 93 were released in 1992. The 1991 group produced two litters of two and four kits.

The U.S. Fish and Wildlife Service and the Wyoming Game and Fish Department are monitoring the transplanted population to determine is success. A 1992 survey indicated that 20 of 93 juvenile ferrets were still alive, surpassing the program's objective of a 20-percent survival rate a month after release. At least seven of the ferrets released in 1991 survived their first winter, more than fulfilling the objective of a 10-percent winter survival rate.

There are six captive ferret breeding facilities in the U.S. and one in Canada. The captive population is 349, of which 246 were born in 1992. Cheyenne Mountain Zoo, in Colorado Springs, is a captive breeding facility. It houses 18 ferrets which have produced two kits.

The Colorado Division of Wildlife is evaluating sites for possible reintroduction of black-footed ferrets. Primary consideration is being given the Bureau of Land Management's Little Snake and White River Resource Areas in northwestern Colorado. In southeastern Colorado, the Pinyon Canyon Maneuver Site is being considered.

Shirley Basin, between Caspar and Laramie is scheduled for another ferret release in 1993, as are areas in Montana's Charles M. Russell National Wildlife Refuge and South Dakota's Badlands. The reintroduction program's goal is to establish a population of 40 breeding pairs in the Shirley Basin by 1996, plus self-sustaining populations in each state in the animal's native range of the western Great Plains.

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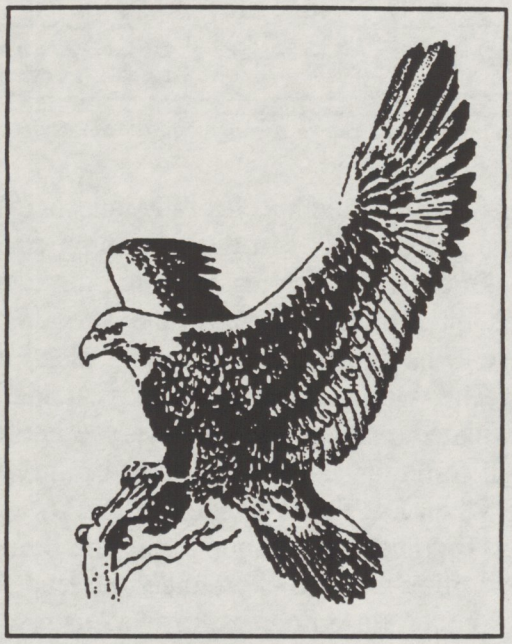
BALD EAGLE

Perhaps nothing typifies the plight of America's threatened and endangered wildlife more than the fact that the country's national symbol, the bald eagle, is itself endangered.

But the population of American bald eagles is on the mend.

Appropriate to their prestige as a national symbol, bald eagles are stately and proud-looking birds with white heads and tails and brown body feathers. Their strong beaks, sharp talons and intense eyes give them a formidable appearance, aided by a stature that ranks them the second largest bird of prey in the U.S. Bald eagles weigh as much as 12 pounds and have a wingspan of up to 8 feet. Only endangered California condors are bigger. After their fourth year, bald eagles get the white head plumage that lends them their name. Young birds have mostly brown plumage and are often confused with golden eagles.



Bald eagle

When flying, bald eagles use deep strokes and soar with level wings. They nest near lakes and rivers where the fish that make up their primary summer diet are plentiful. Huge nests are usually built in trees although some are placed on cliffs. If undisturbed by humans, adult eagles tend to use the same breeding area and often the same nest each year. A clutch of one to three eggs is laid in late February, and eaglets hatch about 35 days later. For warmer weather and more prey, bald eagles fly south in the winter. Gathering on communal roosts near open water, bald eagles feed on fish, waterfowl, small animals such as prairie dogs and the carcasses of deer and elk. The average lifespan of a bald eagle is 20 years.

Colorado probably never had substantial populations of nesting bald eagles. There are fewer than a half dozen records of nesting bald eagle pairs in the state since the 1880s. However, in the last decade or so, the number of nesting pairs has increased from two or three to 14. A popular wintering area, Colorado attracts as many as 800 bald eagles in December and January. The San Luis Valley, in southern Colorado, attracts bald eagles because nearby

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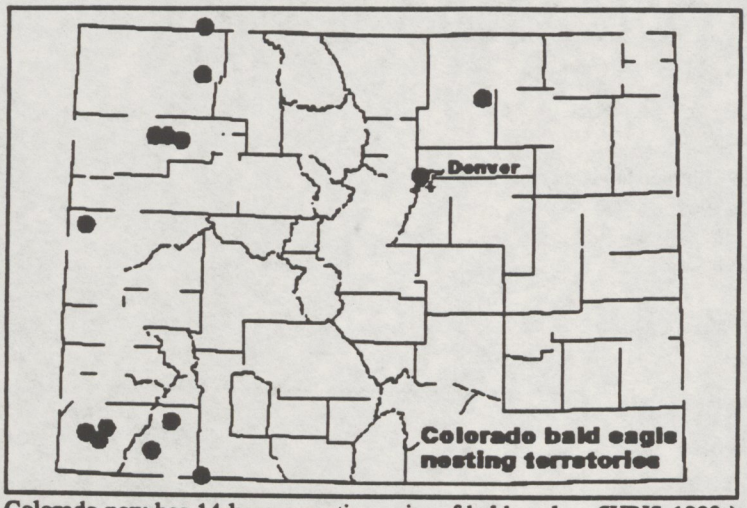

Colorado now has 14 known nesting pairs of bald eagles. (WRIS 1993.)

wildlife refuges provide ample fish, waterfowl and other prey species.

DECLINE OF THE SPECIES: Bald eagles once nested in 45 of the 48 contiguous states, as well as Alaska. In 1981, there were nesting eagles in only 30 of those states, with 90 percent of the 1,250 known pairs restricted to 10 states -- Florida, Wisconsin, Washington, Michigan, Oregon, Maine, California, Maryland and Virginia. Bald eagles remain plentiful in Alaska and Canada. In 1978 the bald eagle was federally listed as a threatened species in Minnesota, Wisconsin, Michigan, Oregon and Washington, and an endangered species in the remaining contiguous United States.

In the 19th Century nesting pairs were drastically reduced due to the loss of habitat, as well as unregulated trapping and shooting. These negative impacts continued into the 20th Century, when environmental contamination entered into the picture.

The widespread use of the pesticide DDT had the worst impact. When eagles ate DDT-contaminated prey, they became susceptible to a DDT byproduct called DDE that causes eggshell thinning. Thus eagle eggs broke before eaglets could develop and hatch. Eagles were helped when DDT was banned in the U.S. in 1972.

Now, however, some eagles are dying of lead poisoning. Wintering eagles that eat ducks, geese or other waterfowl wounded by lead shot may fall victim to secondary poisoning. For this reason, hunters are now required to use steel shot, and lead poisoning is expected to decline.

CURRENT STATUS AND PLANS FOR RECOVERY: With the banning of DDT, bald eagle populations have significantly increased in the U.S. While less than 1,500 breeding pairs existed outside of Alaska in 1982, some 22,000 bald eagles now live in the lower 48 states and Canada. Colorado now has 14 known nesting pairs. It is possible that the U.S. Fish and Wildlife Service will downlist the bald eagle from endangered to the more secure threatened status.

The Colorado Division of Wildlife has an ongoing program designed to protect and enhance bald eagle nests. Division personnel monitor known breeding sites to determine nesting success and to see how eagles respond to human activity and land use. If necessary, human activity may be restricted during nesting season.

When fledglings are old enough, researchers visit the nest to band the young and take blood samples for tests. They also collect nonviable eggs and eggshell fragments for analysis. Habitat and nest condition are noted, and if necessary, the nest is stabilized. If the tree is in danger of falling, an artificial nest may be placed in an adjacent tree to assure continued nesting at a protected site.

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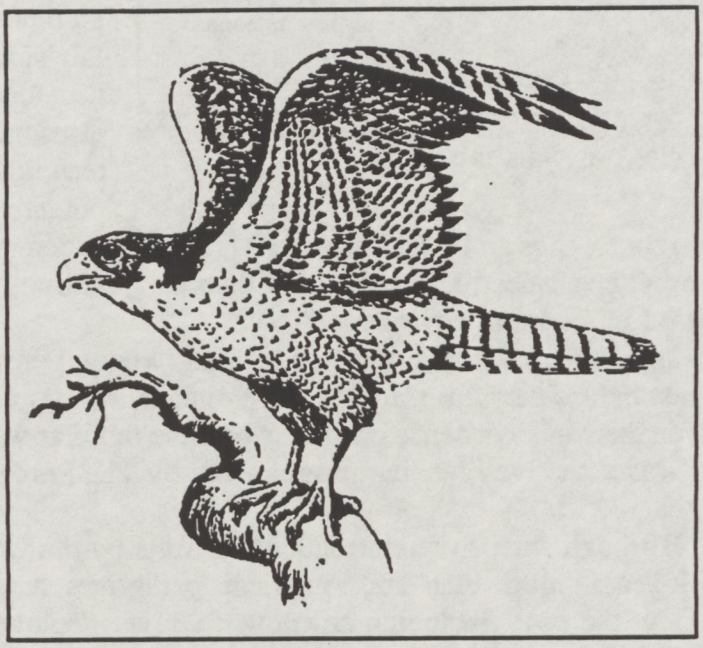
AMERICAN PEREGRINE FALCON

American peregrine falcons have lived in the western United States for at least 30,000 years, but this century, breeding populations began a dangerous descent toward extinction.

Management efforts have given the species a talon hold on recovery.

Occuring from Mexico north to the arctic tundra, American peregrine falcons are crow-sized birds of prey characterized by a dark helmet and wide, black sideburns. Typified as a falcon by pointed wings, narrow tail and quick wingbeats, adults have slate blue backs and buff chests broken by horizontal slate barring. Juvenile birds are brown and heavily streaked.



American peregrine falcon

For nesting, peregrines prefer mountain cliffs near rivers or lakes. Hunting sites may be as far as 17 miles away in cropland, meadows, riverbottoms, marshes and lakes. Peregrines primarily eat birds which they overtake with dives (or stoops) estimated at 150 miles per hour. Nesting typically begins in mid-April, and after 33 days of incubation, a clutch of three or four eggs is hatched. Both sexes incubate, although the male spends more time hunting for birds than sitting on the nest. The lifespan for peregrines in the wild is 12 years.

DECLINE OF THE SPECIES: Peregrine populations dropped throughout the U.S. largely due use of the pesticide DDT. A byproduct of DDT called DDE accumulates in adult peregrines when they eat contaminated prey. It results in eggshell thinning, causing eggs to break before they hatch. The loss of nesting and feeding habitat due to human encroachment has also contributed to a population decline, but DDT has been the primary enemy. The U.S. banned the harmful pesticide in 1972, but some peregrines that nest here are still exposed to DDT when they or their prey migrate to Latin America.

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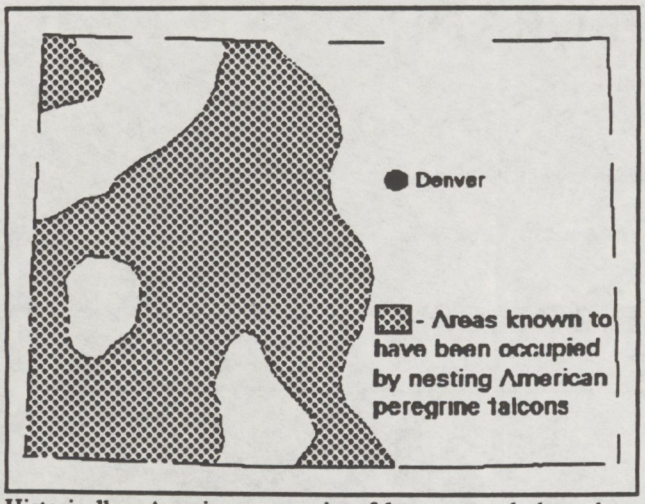

Historically, American peregrine falcons nested throughout much of Colorado. (WRIS 1993.)

American peregrine falcons were listed as endangered federally in 1970, and by the state in 1972. That year, none of Colorado's eight adult pairs reproduced, and the species future in the state was tenuous.

CURRENT STATUS AND PLANS FOR RECOVERY: Colorado has been at the forefront of efforts to recover peregrine falcons, devoting a great deal of time and money to the cause. In fact, Colorado Division of Wildlife biologist Jerry Craig has developed recovery techniques now used elsewhere in the U.S. One of those techniques is fostering, in which wild and potentially weak eggs are replaced first with plastic replica eggs and later with captivity-hatched young. By doing a switch, the original eggs stand a better chance of hatching in a laboratory setting, and the captivity-produced fledglings are raised in a natural environment.

In a recovery strategy called hacking, young peregrines are placed in historical nesting areas just before they are ready to fly. Protected from predators in special nest boxes, the birds are given their independence once they become familiar with their surroundings. Aiding in these efforts was a captive breeding program run by The Peregrine Fund.

Through extensive reintroduction efforts by the Colorado Division of Wildlife over the past 21 years, more than 500 American peregrines have been released in various locations throughout the state, including downtown Denver. Colorado is now home to 47 adult breeding pairs. A Western Slope population is stable and an Eastern Slope population is recovering. Fostering and hacking are no longer necessary because the populations are reproducing naturally.

As part of its recovery program, Division personnel visit peregrine nests to monitor breeding success. Nestlings are banded, eggshell pieces are measured for thickness, and whole, nonviable eggs are collected to study. Occupied and potential nesting habitat is also studied.

The U.S. Fish and Wildlife Service may soon downlist the species. To be reclassified, the young must be produced naturally, and eggshell thickness must be within 10 percent of pre-DDT average measurements for five years. This goal depends on finding, maintaining and protecting existing and potential habitat. Another key is discouraging or eliminating the use of harmful pesticides in countries where peregrines and/or their prey spend part of their lives.

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The arctic peregrine falcon, a subspecies of peregrine that migrates through Colorado, was listed as endangered by the federal government and Colorado in 1972, but had recovered enough by 1983 to be downlisted to threatened. Scientists are continuing to monitor the species.

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Coloradans help recovery efforts by contributing Income Tax Checkoff dollars to the Nongame and Endangered Wildlife Program.

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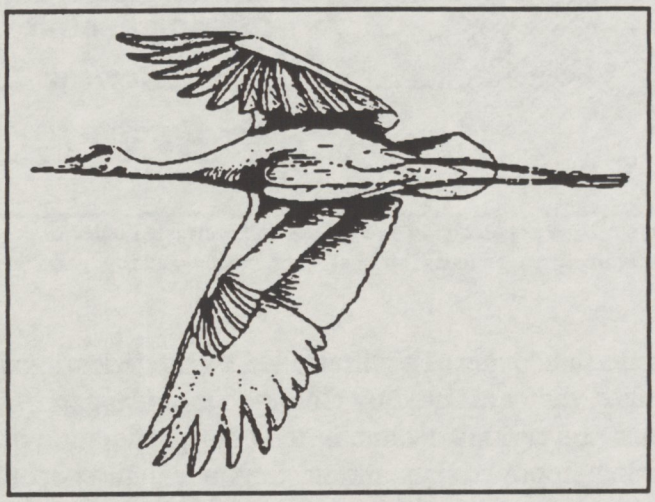
GREATER SANDHILL CRANE

Believed to be the oldest living bird species, sandhill cranes have existed at least since the Pliocene era, some 4 to 9 million years ago. The subspecies that nests in Colorado, the greater sandhill crane, is on the state's endangered list.



Greater sandhill crane

Large, slate gray birds with a red patch of skin on their foreheads, greater sandhill cranes are slightly smaller than whooping cranes, averaging 4 feet in height and weighing about 12 pounds. They have a wingspan of 6 feet and are sometimes confused with great blue herons, which are similar in size and color. The two birds can be easily identified in flight because sandhill cranes fly with necks and legs extended, while herons pull their heads up and back, forming an "S" with their necks.

Greater sandhill cranes are known for their unique mating dance in which they bow, hop, unfurl and drop their wings and then leap high into the air, noisily calling for attention.

While habitat loss, especially between 1870 and 1915, caused a decline of the species, the greater sandhill crane population in the United States is now estimated at a healthy 20,000. Most are in the Rocky Mountain regions of Canada, as well as Idaho, Wyoming, Utah, Montana, Arizona and New Mexico. Colorado's San Luis Valley is a major stopover point for up to 20,000 sandhills during spring and fall migrations.

Nesting habitat is made up of marshes and willow-lined drainages in high mountain meadows below 9,500 feet. While cranes once nested throughout much of western Colorado, the breeding range has shrunk to a stretch of islands on the Yampa River and some wet meadows and beaver ponds in portions of Routt, Moffat, Rio Blanco, Grand and Jackson counties in the northwestern part of the state.

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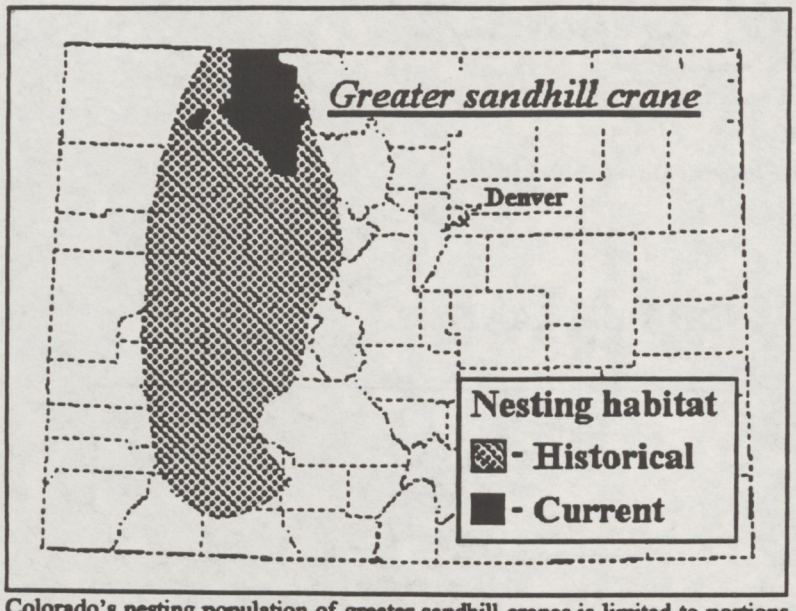

Colorado's nesting population of greater sandhill cranes is limited to portions of five northwestern counties but has been making steady gains toward recovery.

DECLINE OF THE SPECIES: Sandhill cranes need solitude to nest successfully. Disturbances, even by fishermen or livestock, can cause them to abandon a nest.

Over the years, much of Colorado's nesting habitat became unsuitable because of direct or indirect human disturbance during the incubation and chick-rearing period from mid-May through June. Also, many cranes were shot for food up to the 1940s. By 1947 only 13 cranes were known to nest in Colorado.

CURRENT STATUS AND PLANS FOR RECOVERY: As a species, greater sandhill cranes are not listed as endangered or threatened by the federal government. But because relatively few nest in the state, they are listed by Colorado as endangered. The Colorado Division of Wildlife began to address the serious decline in the crane population in the mid-1970s by protecting habitat and monitoring stopover sites and nesting areas. In cooperation with the Division, the U.S. Forest Service regulates and monitors public use in and impacts to essential crane habitat on its lands.

Efforts have been successful, so far, as evidenced by an increase in confirmed nesting pairs in recent years. In 1987, there were 45 confirmed nesting pairs. Now there are an estimated 120 pairs. The Division's objective is to increase the number of nesting pairs to a level that will ensure a long-term, self-sustaining breeding population in Colorado. Numbers are such that the status of Colorado's nesting population of greater sandhill cranes is now under review. It is possible that the species will be downlisted from its endangered status.

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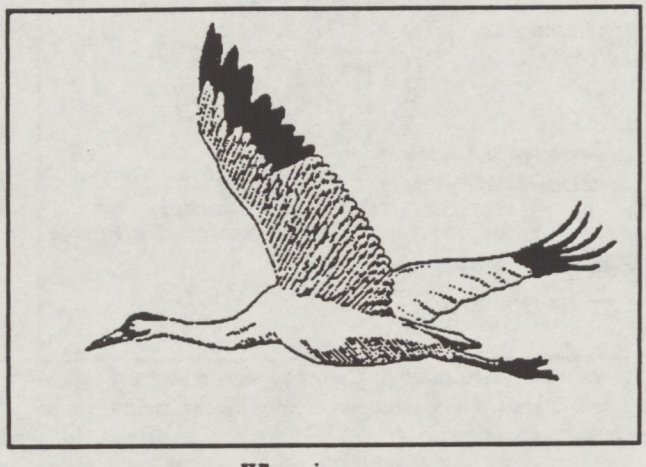
WHOOPING CRANE

Whooping cranes came perilously close to extinction 50 years ago but through careful management are making a comeback.

These snow-white birds, the tallest in North America at 5 feet, have wings tipped in black and a wingspan of 7-1/2 feet. Whooping cranes have white and black heads with red crowns and long, pointed beaks. Juvenile whoopers are white and rusty brown with black wingtips, and adults and juveniles fly with long necks and legs extended.



Whooping crane

Whooping cranes are unique to North America but only pass through Colorado stopping over in the San Luis Valley on their way to and from wintering grounds. They historically nested in a wide area from Lake Michigan to the Arctic coast and wintered along the coasts of Texas and Louisiana. The lifespan of a whooper is about 25 years.

Whooping cranes may appear similar to other bird species, but distinctions can be easily made. As opposed to greater sandhill cranes, whoopers are white rather than gray. Whoopers' black wingtips set them apart from white swans, and their extended necks during flight distinguishes them from herons and egrets whose necks are folded in an "s" when flying. White pelicans are larger than whoopers, and not only are pelicans' wingtips black, but black edgings extend almost to the body. Also, white pelicans fly with their necks folded. Snow geese are white with black wingtips, but they are much smaller than whooping cranes.

DECLINE OF THE SPECIES: The whooping crane population dropped sharply throughout the 1800s and early 1900s when wetlands were drained for farms and cities. The Aransas National Wildlife Refuge in Texas was created in 1937 to protect whoopers on nesting grounds along the Gulf of Mexico. By 1941, the species consisted of only a single flock of 16 whoopers, and extinction seemed imminent. In 1954, nesting grounds at Wood Buffalo National Park in Canada's Northwest Territories were discovered, and efforts were stepped up to save the birds.

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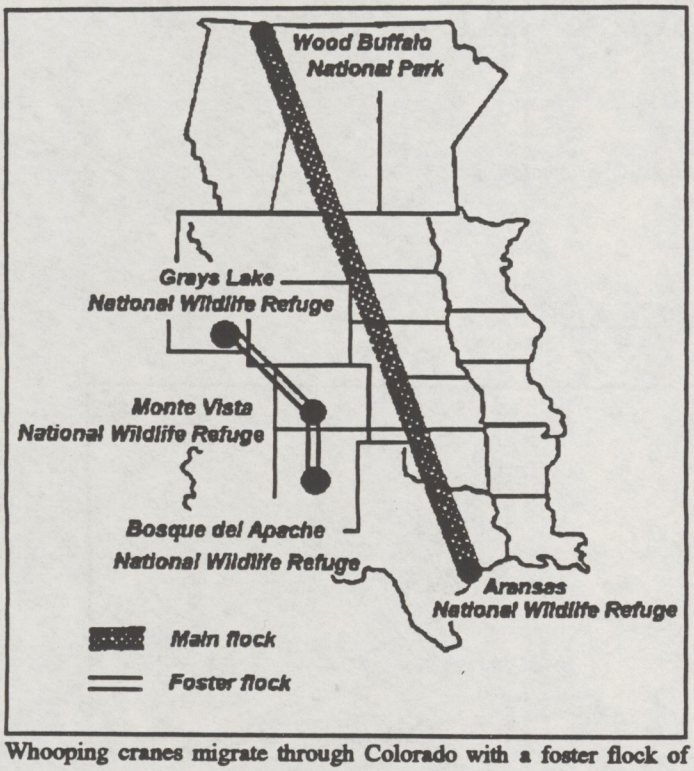

Whooping cranes migrate through Colorado with a foster flock of greater sandhill cranes. The migration corridor for the main flock of whoopers is east of Colorado.

CURRENT STATUS AND PLANS FOR RECOVERY: The whooping crane is designated as endangered on state and federal lists. In 1975 researchers began establishing a second flock of whooping cranes in the Rocky Mountains in case calamity such as disease or a hurricane befell the Canadian flock.

In a cross-fostering program, whooper eggs were placed in the nests of sandhill cranes at Gray's Lake National Wildlife Refuge in Idaho. The sandhills were good parents and taught the whoopers the migration route to wintering grounds at Bosque del Apache National Refuge in New Mexico.

The whooper flock once numbered 31 birds, but mortality was high. Due to their large size, they often fly into power lines or fences, frequently in the San Luis Valley. More importantly, the cross-fostered whoopers never paired or produced their own young, so researchers abandoned the cross-fostering plan in 1988.

Currently the Rocky Mountain whooper flock numbers about 10 birds. Two have been captured to see if they will bond with captive-bred whooper chicks and teach them migration routes.

The future of the Rocky Mountain flock relies on the possibility that adult whoopers may "adopt" chicks and successfully imprint them with behavior appropriate to whoopers. If left in the wild without producing or adopting young, Colorado's whoopers could die within a decade.

In 1992, a hybrid crane was apparently born to a male whooper and a female sandhill crane in the first known pairing of the two species in the wild. Researchers, wary that future pairings could weaken the gene pool of each species, are attempting to capture the hybrid to see if it is fertile.

The Canadian flock now totals 136 whooping cranes. Between the two wild flocks and captive birds being raised in Wisconsin, Maryland and Florida, the world's whooper population is 235-240 birds, the most this century.

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GREATER PRAIRIE-CHICKEN

Greater prairie chicken

Biologists are working to make sure the dance floor doesn't disappear from under one of nature's most fascinating performers.

Greater prairie-chickens are hen-sized grouse with mottled plumage, which is buffy-brown and white above with black barring, and white below with brown barring. Males have long ornamental neck feathers called pinnae, orange air sacs on their necks, yellow combs above the eyes and short black, rounded tails. Females have short ornamental neck feathers and short brown, barred tails.

Every spring, male greater prairie-chickens gather on breeding grounds, called leks, and put on loud and fascinating displays to woo mates.

During dawn and dusk displays, each male claims a territory, with the dominant males claiming the center of the lek. The birds strut, stomp, cackle, jump and bow. They erect their pinnae feathers and inflate and deflate their air sacs, producing a resonant "boom," which, on clear days, can be heard from more than half a mile away. Because of this unique sound, prairie-chicken leks are also called booming grounds.

After mating, hens lay clutches of 9-13 olive-buff eggs and incubate them 21-23 days. Grasslands are essential for prairie-chicken survival, and in Colorado, greater prairie-chickens live mostly in tall sandsage and bluestem prairies. Grain is eaten in winter and spring until plants and insects become available.

DECLINE OF THE SPECIES: Prairie-chickens were not common to Colorado until the early 1900s when -- attracted by nearby grain crops -- a sizable population of greater prairie-chickens thrived in the grasslands of northeastern Colorado and as far west as Brighton. But that attraction proved dangerous when more portions of the species' natural prairie habitat were converted to agricultural cropland. During the 1930s, greater prairie-chicken numbers declined

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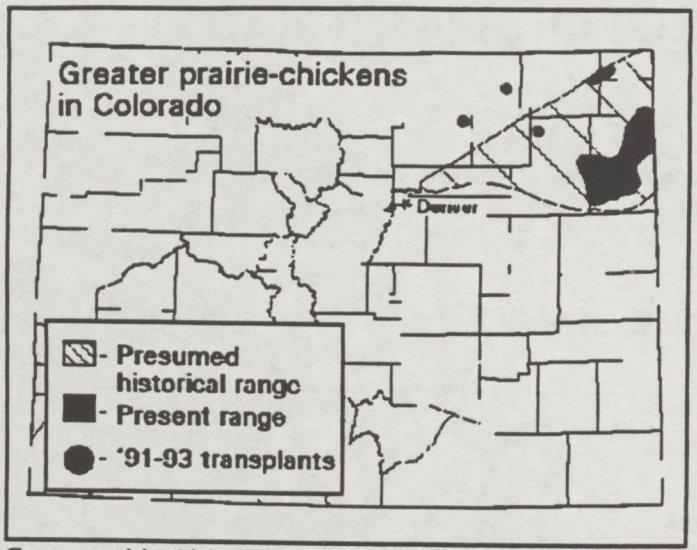

Greater prairie-chickens live in northeastern Colorado. Recovery efforts have involved indentifying and improving prairie habitat, as well as reintroductions. (WRIS 1993.)

rapidly. Drought, overgrazing, abandonment of small farms and ranches and conversion of grassland to large, intensively cultivated farmland reduced prairie-chicken populations substantially. The species has not been hunted since 1937.

As many as 2,835 birds were counted in 1952, but when the population estimate decreased to 600 birds in 1973, greater prairie-chickens were placed on the endangered species list.

CURRENT STATUS AND PLANS FOR RECOVERY: The Colorado population of greater prairie-chickens is estimated at 6,000-8,000 birds, most north of Wray in Yuma County. Some live in the sandhills of Phillips and Washington counties, and transplants have reintroduced the species to Logan, Sedgwick, Weld and Morgan counties.

In 1982, the Colorado Division of Wildlife began restoring suitable prairie habitat at South Tamarack State Wildlife Area, south of Crook in Logan and Sedgwick counties. In 1984 and 1985, 76 greater prairie-chickens were reintroduced to the area. In 1991-92, the Division transplanted 80 greater prairie-chickens from the Yuma population to a site near Pinneo, east of Brush, and 90 greater prairie-chickens from Kansas to a site north of Riverside Reservoir 20 miles east of Greeley. In spring 1993, 41 greaters from Yuma County were transplanted into eastern Weld County.

Throughout recovery efforts, care has been taken to identify suitable prairie habitat, encourage management and to maintain or improve its quality. Because most prairie-chicken habitat is on private property, recovery efforts have been characterized by cooperation between wildlife officials and landowners. Established and transplanted populations of greater prairie-chickens are doing well, and the species may soon be downlisted from endangered status.

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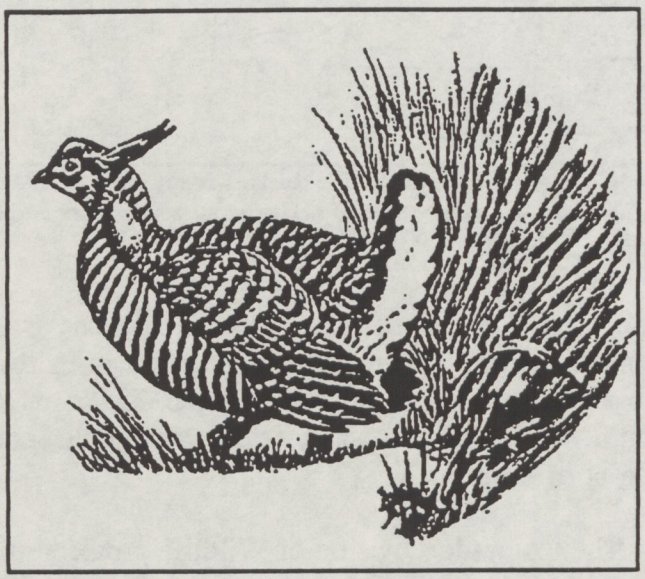
LESSER PRAIRIE-CHICKEN

When it comes to distinguishing between lesser and greater prairie-chickens, it's all in the name. There are fewer lessers than greaters, and greaters are bigger.

Slightly smaller and paler than their hen-sized greater prairie-chicken counterparts, lesser prairie-chickens have buffy-brown and white plumage with barring comprised of two narrow dark bars enclosing a brown bar. Males have long ornamental neck feathers, called pinnae, and yellow combs above their eyes. A major distinction between the two species is the lessers' reddish-purple air sacs on the sides of their necks. Greater prairie-chickens have orange air sacs.



Lesser prairie chicken

On mating grounds, called leks or booming grounds, male lesser prairie-chickens put on raucous displays to attract females each spring. After dominant males claim the center of the lek, they spar with competitors with flutter jumps.

To woo mates, male lesser prairie-chickens do a dance, which includes jumps, stamping their feet, gobbling and cackling. They erect their pinnae feathers and inflate and deflate their air sacs, producing a characteristic booming sound that can be heard far and wide. Lesser and greater prairie-chickens perform the same mating rituals.

Lesser prairie-chickens live in southeastern Colorado, while greaters prefer Colorado's northeastern region. Sandy grasslands with tall stands of sandsage and bluestem grasses provide food, as well as nesting cover, for lesser prairie-chickens. Adults eat insects, seeds and plants, while juveniles feed mostly on insects.

Historical habitat occurred in Texas, Oklahoma, New Mexico, Kansas and southeastern Colorado. Although the species once was found in 11 southeastern Colorado counties, it was probably never common except near Campo in Baca County.

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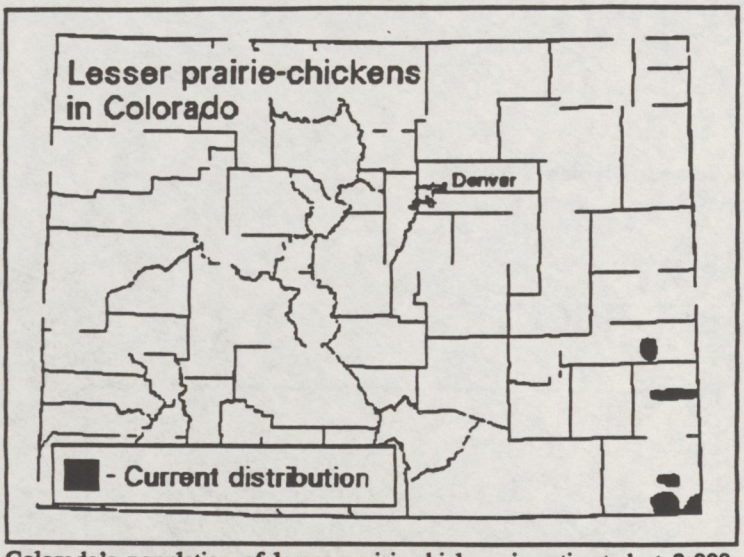

Colorado's population of lesser prairie-chickens is estimated at 2,000-4,000 birds living in a few pockets of habitat in the southeastern corner of the state. (WRIS 1993.)

DECLINE OF THE SPECIES: The loss of native prairie habitat due to agricultural use and overgrazing by livestock led to dramatic declines in the population of lesser prairie-chickens. Habitat loss was compounded by periodic droughts especially during the 1930s. Habitat quality is still a limiting factor for lesser prairie-chicken populations, and the species was listed as threatened in 1973. Biologists estimate there are only 50,000 breeding birds left in the U.S.

CURRENT STATUS AND PLANS FOR RECOVERY: Listed as a threatened species in the state, Colorado's population of lesser prairie-chickens is estimated at 2,000-4,000 birds in a few pockets of habitat. The primary population is in the Comanche National Grasslands east of Campo and on private lands south of the Cimarron River. Smaller populations exist southeast and southwest of Campo, southeast of Springfield, northeast of Eads and south of the Arkansas River east of Lamar.

The Colorado Division of Wildlife protects, maintains and improves suitable habitat for lesser prairie-chickens. Lessers were transplanted to Pueblo County in 1988, 1989 and 1993, and other transplants may be considered. Populations appear to have increased steadily since 1977. The Division's recovery plan outlines a desire to downlist the species from threatened to species of special concern by the year 2005.

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THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

PLAINS SHARP-TAILED GROUSE

Westward expansion in the late 1800s put plains sharp-tailed grouse on a path to endangered status in Colorado, but it is Denver's southward growth that now puts them in peril.

Plains sharp-tailed grouse are chicken-like birds with short, pointed tails. They are buff gray above, barred with black, and have brown wings mottled by black and white spots. The foreneck, breast and sides are heavily mottled with V-marks, and their underbellies are pale. Both sexes have yellow eye combs, and males have purple air sacs on both sides of the neck.

Plains sharp-tailed grouse

Like other grouse species, sharp-tailed males gather each spring on mating grounds, called leks, to attract their female counterparts. The males perform a dance in which they extend their wings, raise their tails and lower their heads until their bodies are horizontal to the ground. They rapidly stamp their feet and click their tail feathers. The display is capped with cackling noises and flutter-jumps.

After mating occurs, females incubate clutches of 7-13 eggs for 22-25 days. An adult's diet consists of cultivated cereal crops and buds of shrubs and trees, while chicks primarily eat insects. In winter, the primary diet is made up of fruits and buds of such plants as rose, willow, chokecherry, cottonwood, sumac and Russian olive trees. Grassland and grassland-shrub mixture provide the best habitat for sharptails through the various seasons.

Historically, the species ranged from northern New Mexico throughout the Great Plains and into the prairie provinces of Canada. Although probably not common, sharptails once occupied habitat in at least 11 counties in northeastern Colorado. Now populations occur only in Douglas County, although sightings are occasionally made in Yuma, Weld and Logan counties. The species was listed as endangered in Colorado in 1976. In recent years, sharptail populations have increased at Tamarack Ranch State Wildlife Area near Crook where the Colorado Division of Wildlife restored sandsage and bluestem prairie habitat.

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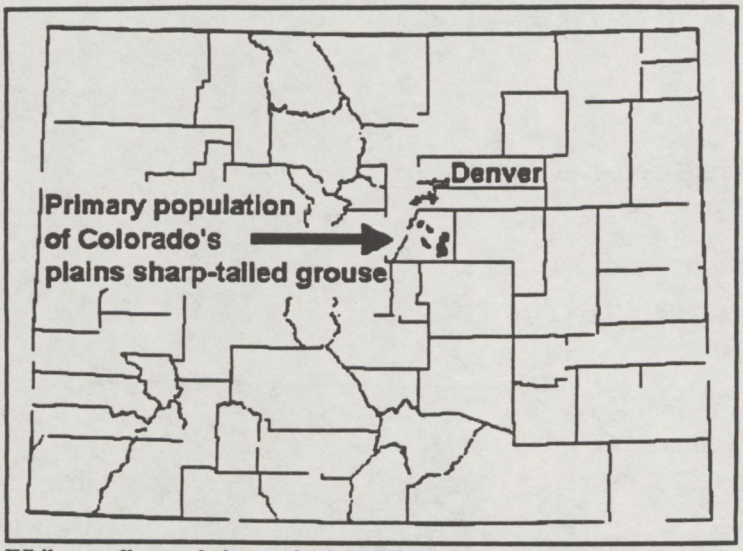

While small populations of plains sharp-tailed grouse may exist in northeastern Colorado, the state's primary population is found south of Denver in Douglas County. (WRIS 1993.)

DECLINE OF THE SPECIES: Since 1900 the cumulative effect of converting native grassland to cropland, overgrazing, suburban development and fire control has drastically reduced habitat available for plains sharp-tailed grouse. A few birds lived in Elbert County prior to 1986, but none have been found in subsequent years. Key factors affecting the species in Douglas County appear to be loss of rangeland to development, overgrazing by domestic livestock and invasion of ponderosa pine as a result of fire suppression.

CURRENT STATUS AND PLANS FOR RECOVERY: While small populations may be scattered throughout northeastern Colorado, the primary population of plains sharp-tailed grouse consists of only six active leks in Douglas County with 150 birds at most. The number of sharptails and sharp-tailed/greater prairie-chicken hybrids at Tamarack Ranch is increasing and may be 20-30 birds. They are being monitored to assess risk of further hybridization.

Between 1987-89, 155 plains sharp-tailed grouse from Nebraska and North Dakota were transplanted to Las Animas County east of Trinidad. While there have been reports of sharptails near the release site, the status of the transplant was unclear in 1991 because no leks were found.

The Division is trying to find other transplant sites for plains sharp-tailed grouse and will release more birds when access to suitable habitat is found.

The future of plains sharp-tailed grouse in Colorado depends on managing habitat in Douglas County and other areas where sharptails live or can be successfully transplanted. The Division recommends that management should include changing domestic livestock grazing practices to increase grassland and shrub cover, controlled use of fire and other means of preventing conifer invasion.

The objective is to downlist the species from endangered status by 2008. This requires four occupied areas of at least 10 square miles, each supporting a minimum breeding population of 100 birds for three consecutive years. Half of these sites are to be under Division management, and half may be managed by private/public entities. The species could be delisted to species of special concern by 2023 if there are six occupied areas meeting the same criteria.

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THREATENED AND ENDANGERED SPECIES OF COLORADO

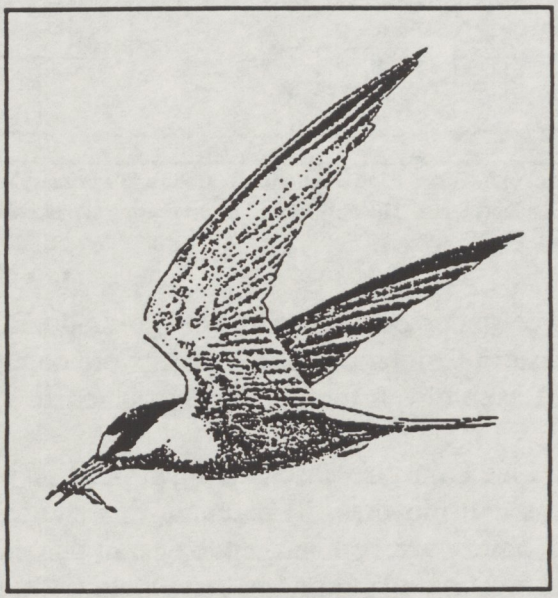
A fact sheet prepared by the Colorado Division of Wildlife
July 1993

LEAST TERN

The sight of a least tern hovering 20 yards over a lake and diving headfirst into the watery depths to catch a tiny fish has become rare in Colorado.

But perhaps recovery efforts now underway can make it a more common occurrence.

Least terns are graceful birds that, in breeding season, have light gray upper bodies and white underbellies. A black crown above their eyes is accented by a touch of white just above a yellow bill. Their legs are also yellow. With a body length of 9 inches and a wingspan of 20 inches, they are about the size of a swallow. Unlike other terns, their forked tail is relatively short.



Least tern

Those birds that breed in the Mississippi and Rio Grande river basins from Montana, eastern New Mexico and Colorado to Indiana and Louisiana are known as interior least terns. From late April to August, they nest on barren to sparsely vegetated river sandbars, sand and gravel pits, and lake and reservoir shorelines. Such open territory helps the birds see predators and relocate their chicks after feeding. Least terns feed on small fish and other aquatic animals, and during courtship, a male tern will offer the female a fish he has caught. If the female accepts his pursuits, she will eat the fish, and the two will mate. In late May the female lays two or three eggs in a shallow scrape, and the eggs hatch in about three weeks. Incubation duties are shared, although most incubation is done by the female, while the male brings fish to her and the chicks. By mid-September, interior least terns migrate to Central and South America. The lifespan may be as long as 15 years, but the average is closer to five.

DECLINE OF THE SPECIES: Interior least terns still occupy much of their traditional range, but numbers have fallen off largely because river systems have been altered throughout the century. Flow management, channelization, irrigation and reservoirs have contributed to the elimination of much of the tern's sandbar nesting habitat. Human recreation on some rivers has

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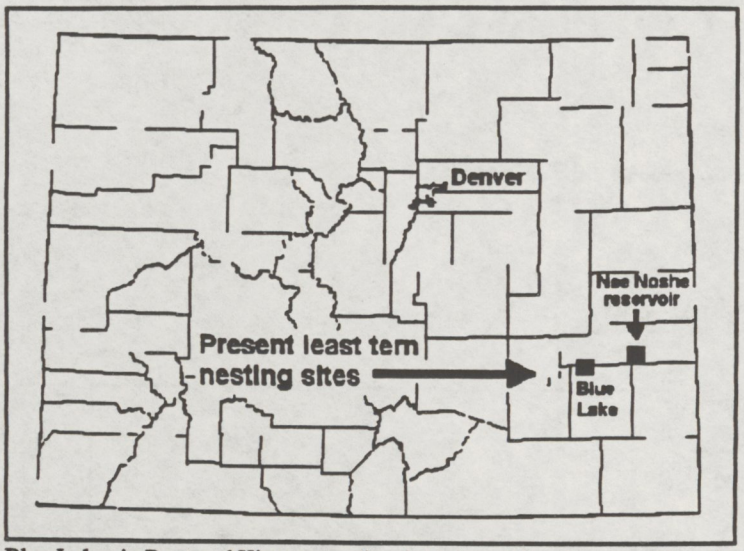

Blue Lake, in Bent and Kiowa counties, is Colorado's primary nesting site for interior least terns. The only other known nesting site is at Nee Noshe Reservoir. (WRIS 1993.)

disturbed nesting sites, leading to decreased reproductive success and sometimes nest abandonment. The species was classified as endangered federally in 1985, and in Colorado in 1988.

CURRENT STATUS AND PLANS FOR RECOVERY: There are only an estimated 1,800 interior least terns left in the U.S. In Colorado, Blue Lake, also known as Adobe Creek Reservoir, in Bent and Kiowa counties, is the primary nesting site for interior least terns. Nee Noshe Reservoir in Kiowa County is the only other known nesting location. In 1992, a Colorado Bird Observatory employee under contract with the Colorado Division of Wildlife found 21 least tern nests in southeastern Colorado. Sixteen nests were on an island at Blue Lake, and five nests were at Nee Noshe Reservoir. A total of 45 eggs hatched with 40 young surviving to fledglings.

Blue Lake also has a nesting population of threatened piping plovers. Management efforts for terns and plovers will maintain this site as a nesting area. To accomplish this, biologists believe water must be managed to ensure that enough recedes each spring to expose nesting sites without creating a land bridge that would allow potentially harmful access by humans and dogs. To enhance nesting suitability, the Colorado Division of Wildlife, the Colorado Bird Observatory and local 4-H groups cleared saplings from the site in 1991. Saplings were again cleared in 1993. The Division has erected signs to keep people off the island.

The island is owned by the State Land Board, and recreation at the lake is managed by the Division. A management plan for the recovery of Colorado's population of least terns is being prepared. Current management includes full-time observation during the nesting season and habitat protection. To aid in census efforts, researchers plan to band least terns in 1993.

Colorado's population of least terns is growing. In the past two years, 70 young have fledged. Because terns are able to reproduce after their second year, there should be a large population increase in 1993 and 1994 unless winter mortality is high.

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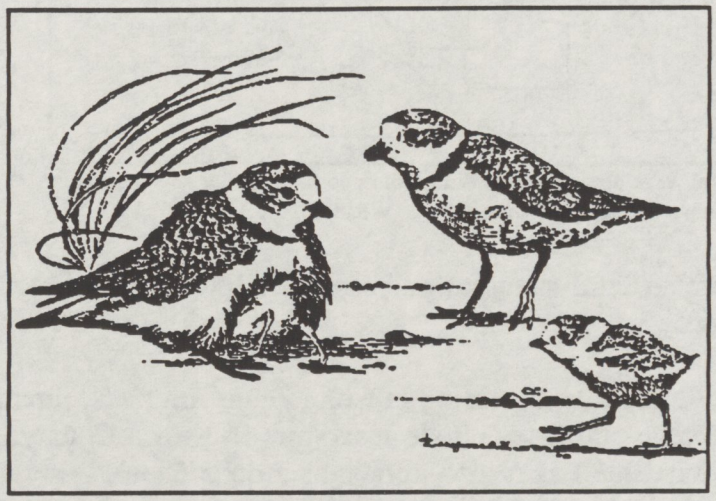
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

PIPING PLOVER

Named for their melodic mating calls, piping plovers fill the air each spring with distinctive trills. But as habitat loss depletes their ranks, the chorus grows more faint.

Piping plovers are hardy, robin-sized birds with sand-colored upper bodies and white undersides. Orange legs distinguish them from snowy and collared plovers. White rumps and wing stripes are visible during flight. Throughout the breeding season, adult piping plovers have a single black forehead and breast band and orange, rather than the typically black bills. Juvenile plumage is similar to that of a nonbreeding adult.



Piping plover

Piping plovers require barren beaches, saline wetlands or river sandbars exposed by receding water on which to build nests. In Colorado, this habitat includes shores and islands of prairie reservoirs. Nests are shallow scrapes in which a clutch of one to four eggs is laid in early May. Both males and females incubate the eggs, which hatch after about 28 days. The chicks are never left unattended. One parent broods them while the other feeds. When the feeding bird returns, they switch parenting roles. Primary food for piping plovers is invertebrates. Insects and spiders from beach vegetation are also eaten. Winter months are spent in the southern U.S. or the Caribbean Islands.

The average lifespan for a piping plover is 9 years.

DECLINE OF THE SPECIES: Historically, piping plovers bred in three geographic regions -- the U.S. and Canadian Northern Great Plains from Alberta to Manitoba and south to Nebraska, the Great Lakes beaches, and the Atlantic coastal beaches from Newfoundland to North Carolina. The species' current range is similar, except breeding populations in the Great Lakes have almost disappeared. Habitat loss due to beach development, upstream damming, irrigation diversion and recreation factored into the decline. Loss of nests has been attributed to recreation

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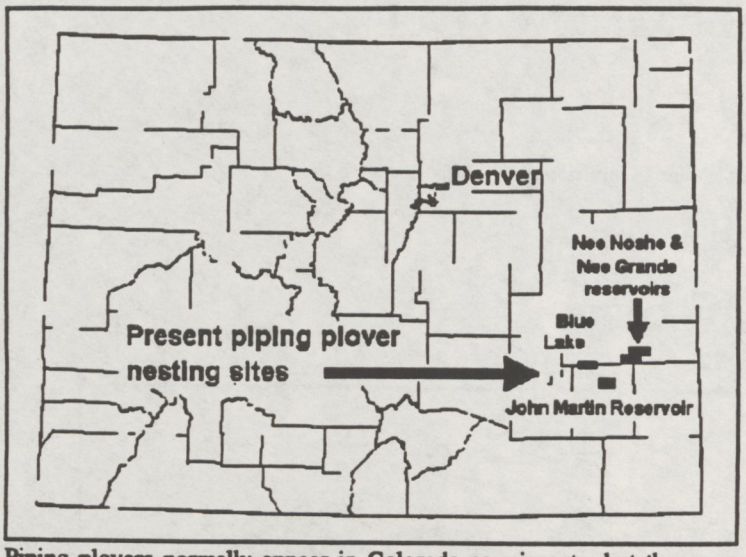

Piping plovers normally appear in Colorado as migrants, but there are four known nesting sites in the state. (WRIS 1993.)

and attack by pets. Grazing has been shown to improve habitat but harm nests.

CURRENT STATUS AND PLANS FOR RECOVERY: The piping plover was added to the federal endangered and threatened species list in 1985. The Great Lakes population is classified as endangered, while the Great Plains and Atlantic Coast populations are listed as threatened. The species was listed as threatened in Colorado in 1988.

The U.S. Fish and Wildlife Service may elevate the piping plovers' federal status to endangered. Only an estimated 2,100 piping plovers exist in North America.

Normally appearing in Colorado as migrants, piping plovers were known to nest only at Nee Noshe and Nee Grande reservoirs in Kiowa County. In 1992, piping plovers successfully nested at Blue Lake, also known as Adobe Creek Reservoir, in Bent and Kiowa counties and Bent County's John Martin Reservoir for the first time. A Colorado Bird Observatory employee under contract with the Colorado Division of Wildlife counted one pair at each of the four reservoirs. Six young survived to fledglings. This is a vast improvement over 1991 figures when four piping plover pairs produced no young.

Blue Lake is unique because it is an active nesting location for plovers, as well as endangered interior least terns. Management efforts for plovers and terns will maintain this site as a nesting area. To accomplish this, biologists believe water must be managed to ensure that enough recedes in the spring to expose nesting sites without creating a land bridge that allows potentially harmful access to the island by humans and pets. To enhance nesting suitability, the Division, the Colorado Bird Observatory and local 4-H groups cleared saplings from the site in 1991. Saplings were again cleared in 1993. The Division has erected signs to keep people away from the island.

The island is owned by the State Land Board, and recreation at the lake is managed by the Division. A management plan for the recovery of Colorado's piping plovers is being prepared. Current management includes full-time observation during nesting and habitat protection. In 1992, biologists built structures around the nests to protect them from predators. The measure proved effective and will be done again in 1993.

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Coloradans help recovery efforts by contributing Income Tax Checkoff dollars to the Nongame and Endangered Wildlife Program.

THREATENED AND ENDANGERED SPECIES OF COLORADO

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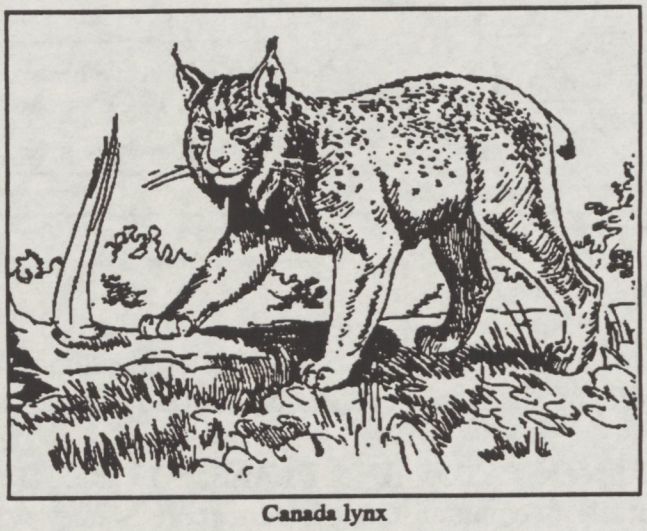
CANADA LYNX



Canada lynx

In states where Canada lynx are not endangered, their populations follow a 10-year cycle in which they are abundant some years and scarce in others, depending on the availability of their primary prey, snowshoe hares. But in Colorado, lynx are always scarce.

Colorado's Rocky Mountains are at the southern edge of traditional range for Canada lynx, and although tracks are occasionally found, sightings of the animal are rare. The species was classified as endangered in the state in 1973.

A member of the cat family, lynx are roughly 34 inches long, weigh about 22 pounds and have tufts of long, stiff hair at the tip of each ear. They have compact bodies, flared ruffs on their faces and long rear legs that give them a somewhat stooped look. Their thick fur is grayish-brown with tawny streaks, and even the bottoms of their large feet are covered in fur. These big, furry paws help lynx travel through deep snow, and like all cats, their claws are retractable. Closely related to bobcats, lynx look like their more common cousins but are larger and have bob-tails completely circled by a black ring. The ring on bobcats is broken on the underside.

In North America, lynx are most commonly found in Canada and Alaska with substantial populations found in northern Washington and Idaho and northwestern Montana. Their preferred habitat is boreal forests with a dense undercover of thickets. In Colorado, their typical habitat is remote forests above 8,000 feet on both sides of the Continental Divide. Lynx are secretive animals well-suited to surviving severe winter cold.

An average lynx may eat 170 hares per year. They also eat mice, squirrels, grouse, ptarmigan and sometimes deer and elk. Mating occurs in February or March, and females usually bear three or four young in mid-May to mid-June. By the next breeding season, the young are ready to fend for themselves. Lynx may live to be 15 years old.

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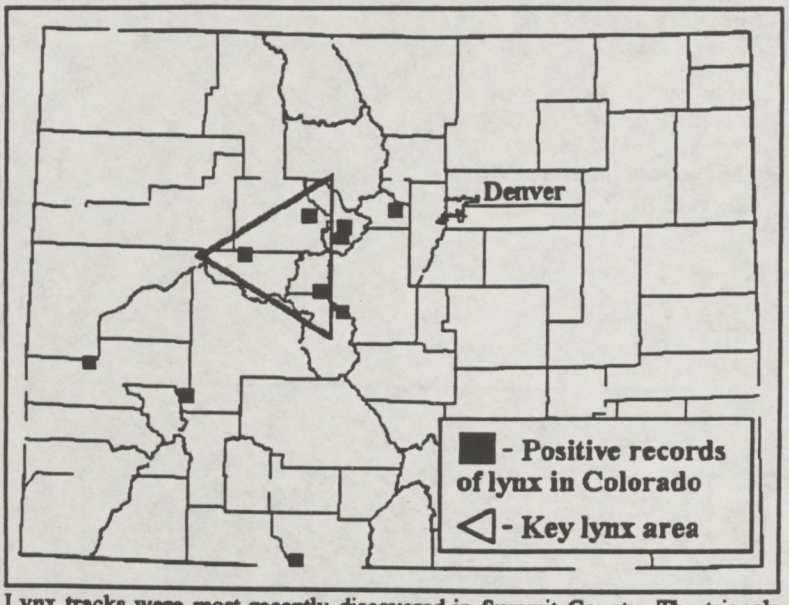

Lynx tracks were most recently discovered in Summit County. The triangle between Leadville, Aspen and Vail is considered the most likely current habitat for lynx. (WRIS 1993.)

DECLINE OF THE SPECIES: Although a native in Colorado, lynx have apparently always been rare. Habitat loss and human encroachment have probably accounted for a population decrease. Throughout their range, some decline occurred in the 19th and early 20th centuries when fur trapping was largely unregulated.

As mentioned earlier, lynx populations can be secondary victims of cycling, a phenomenon in which snowshoe hares become so abundant every 10 years that they overbrowse their food supplies and die of starvation. Lacking their primary food, lynx die off also. In Colorado, however, many biologists believe snowshoe hares are not caught in this cycle of abundance and scarcity, so it is not considered a factor in the decline of the lynx.

CURRENT STATUS AND PLANS FOR RECOVERY: Because lynx are so elusive and historically uncommon in Colorado, there is no way to estimate the current population in the state. The species is known to exist in Colorado because in 1979 and 1980, tracks were found in Eagle, Clear Creek, Lake and Pitkin counties, and in 1989, tracks were discovered again in Eagle County. In 1991 lynx tracks were found in an area proposed for the East Fork Ski Area near Pagosa Springs.

The most recent possible discovery of lynx tracks came early in 1993 by state wildlife biologists searching the north edge of the Eagles' Nest Wilderness Area in Summit County. It is now believed that the state's key lynx area is encompassed by a triangle between Leadville, Aspen and Vail. A lynx illegally trapped in 1974 in the back bowls of Vail Mountain was the last lynx seen in the state.

The Colorado Division of Wildlife is attempting to study lynx as a prelude to developing a recovery plan. Reintroduction may be considered depending on research findings. To gain more information about this secretive species, the Division, with the Colorado Trappers Association, is developing a program for trappers to provide important information regarding the status of lynx in Colorado.

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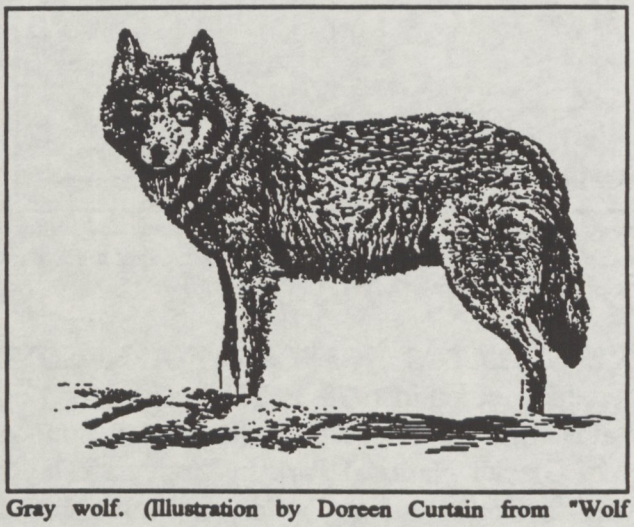
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

GRAY WOLF

In Alaska, Canada, northern Minnesota, Montana and Idaho, the alluring howl of the gray wolf still pierces the wilderness. In Colorado, the sound has been silenced, and its return is uncertain.

As befits an animal so firmly rooted in fairytales and folklore, wolves are formidable. The largest wild member of the dog family, adult males weigh 70-100 pounds and sometimes more. Females weigh 55-85 pounds. Wolves are 5 to 6 feet long from nose to tail and stand 32 inches tall at the shoulder. With long legs and deep, narrow chests, they can travel fast and far.



Gray wolf. (Illustration by Doreen Curtain from "Wolf Recovery in the Northern Rocky Mountains," April 1987, National Audubon Society.)

While there are loners, wolves typically live in groups of two or more, called packs, which travel, hunt and rest together. Each pack has a dominant male and female known as the "alpha pair," and other animals in the pack may be offspring of them or other adults. A social hierarchy exists within each pack, and wolves communicate with each other through scent-marking, posture and behavior. The primary means of communication, however, is howling. Wolves howl to locate, identify and assemble separated pack members, as well as to advertise their territory and avoid conflicts with other packs.

The alpha pair is the primary breeding pair within a pack, but when other wolves leave to find mates, they may form other packs and become alpha pairs. Wolves breed in late January through April, and after 63 days of gestation, the female bears four to seven pups.

The dominant predator of such animals as deer, elk, moose, bison and bighorn sheep, wolves usually cull out the most vulnerable animals, such as the very young or very old. Research indicates they prefer native prey and generally don't feed on livestock when adequate native prey is available.

DECLINE OF THE SPECIES: Gray wolves once lived throughout most of North America and in the West, preyed on huge herds of bison and elk. In the 1800s and early 1900s, many were killed for their thick fur. Western settlement resulted in habitat loss and the replacement

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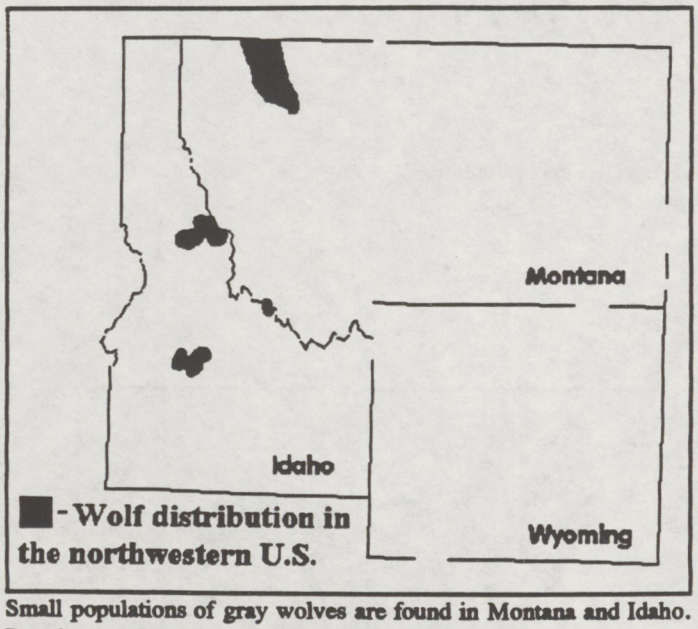

Small populations of gray wolves are found in Montana and Idaho. Despite the discovery of tracks, Wyoming is not thought to have a breeding population of gray wolves. (WRIS 1993.)

of buffalo and elk with livestock. Lacking other food, wolves turned to domestic prey, leading to extermination efforts by local governments and ranchers. Buffalo hunters became bounty-driven "wolfers."

In 1914, the federal government began eradicating wolves on federal land, and by 1942 when the program was stopped, 24,132 wolves were killed. In areas that weren't grazed, wolves were killed to protect elk, deer and antelope. Predator control programs, which included poisoning, occurred through the early 1930s, and sometimes into the 1950s. Colorado's last native wolves were likely killed in the 1940s. Despite some reports of sightings, there's no confirmation that wolves exist in the state.

CURRENT STATUS AND PLANS FOR RECOVERY: Gray wolves in the western U.S. were declared endangered in 1978. In 1985, a pack of 12 gray wolves from British Columbia's Rocky Mountains traveled across the international boundary and spent the winter in the northwest corner of Glacier National Park in Montana. The following spring, a litter of pups was born. This was the first incident of wild gray wolves breeding in the western U.S. in 50 years. There are an estimated 15-20 wolves in Glacier and about 15 in central Idaho.

In 1992, a gray wolf mistaken for a coyote was killed by a hunter near Yellowstone National Park. This was the first evidence of wolves in Wyoming in more than 60 years. In 1993, possible wolf tracks were discovered in Yellowstone, but the U.S. Fish and Wildlife Service believes no breeding population exists in Wyoming.

A federal gray wolf recovery plan calls for establishing a self-sustaining population in the northern Rocky Mountains. To be downlisted, there must be 10 breeding pairs in each of three recovery areas for at least three successive years. The plan recommends natural recovery of gray wolves in northwestern Montana, reintroduction of wolves to Yellowstone National Park and efforts to encourage natural recovery in central Idaho wilderness areas. Part of the plan discusses prevention of livestock loss and ways to address any losses that might occur.

Some people advocate gray wolf reintroduction in Colorado, although no such efforts are planned. The U.S. Fish and Wildlife Service is doing a habitat suitability and public attitude study. The Colorado Wildlife Commission currently opposes reintroduction because of potential conflict with livestock, humans and wildlife. The commission will consider reintroduction only upon public and recovery team review and inclusion in approved recovery plans, pursuant to existing laws and regulations. Because reintroduction efforts would be costly, thought must be given to whether limited funds would be better spent benefitting animals lower in the food chain upon which the health of whole ecosystems may depend.

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THREATENED AND ENDANGERED SPECIES OF COLORADO

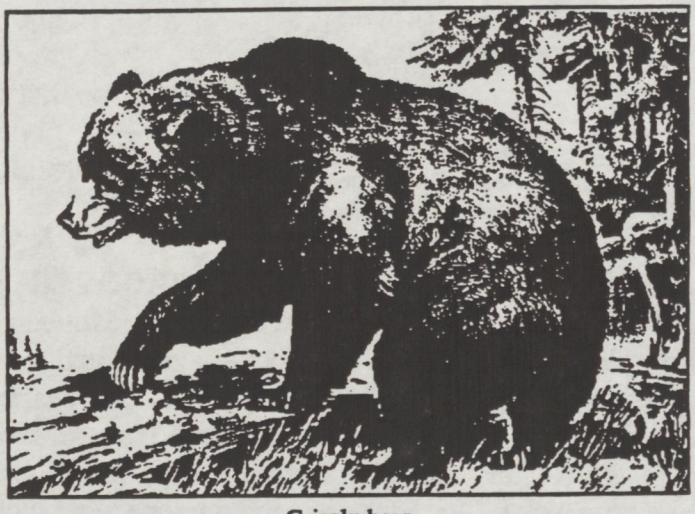
A fact sheet prepared by the Colorado Division of Wildlife
July 1993

GRIZZLY BEAR

Grizzly bears once roamed Colorado with a hulking presence that made them the most mighty animal of the mountains and plains.

Humans changed that. Federally listed as threatened in 1975, the species has probably disappeared from Colorado and is listed as endangered by the state.

Among the largest members of the bear family, grizzlies may weigh 1,000 pounds and be 8 feet tall when standing upright. Average weights are 400-600 pounds for males and 250-350 pounds for females. Standing on all fours, they measure 3 to 4-1/2 feet tall at the hump.



Grizzly bear

Grizzly bears are named not for their sometimes ferocious disposition but for the silver-tipped hairs on their backs that lend a grizzled appearance. Distinguishing grizzlies from black bears is sometimes difficult, even for scientists. With varying shades of brown fur, grizzlies differ from black bears by their larger size, longer curved claws, humped shoulders and dished-in face. By comparison, black bears have rounded snouts.

Strong and surprisingly quick, grizzly bears can run 25 miles per hour. They move with a lumbering gait on all fours but often stand on hind legs to better see or smell.

While grizzlies can live 40 years, the average lifespan is 25. They prey or scavenge on almost any food, including squirrels, deer, carrion and garbage. They also eat roots, berries, nuts and fish. A bear's diet forms fat to help it survive a five-month winter hibernation.

Grizzlies live in remote mountain forests but in spring may seek food at lower elevations. People in bear country create problems by leaving food or garbage accessible to bears. If bears rely on this easy food and lose their fear of humans, chances increase for human encounters with bears. People create nuisance bears that must be moved or killed.

Cubs may stay with their mothers a few years, and siblings may share a territory, but grizzly bears are mostly solitary animals. Adult males and females only tolerate each other briefly during a late-May to mid-July mating season. Embryo development is delayed until late

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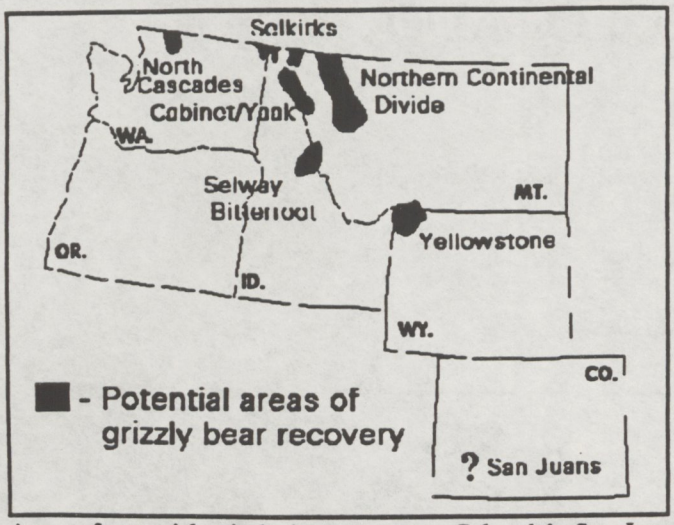

Areas of potential grizzly bear recovery. Colorado's San Juan Mountains have not yet been formally evaluated for grizzly bear presence and no reintroduction is currently planned. (WRIS 1993.)

November or December and one to three cubs are born in February. Three years may pass before a sow gives birth again.

DECLINE OF THE SPECIES: In North America, grizzlies once ranged from Canada's mid-plains west to the California coast and south into Texas and Mexico. Western settlement led to habitat loss, and many bears were killed to protect livestock and people. Other factors in the decline were unregulated trapping and hunting. Between 1800 and 1975, grizzly populations in the lower U.S. fell from 50,000 to less than 1,000.

CURRENT STATUS AND PLANS FOR RECOVERY: Biologists believe 800 to 1,000 grizzly bears live in a few populations in Washington, Montana, Idaho and Wyoming. A 1990 federal recovery plan cites the following recovery zones and grizzly populations: Yellowstone, roughly 200 bears; Northern Continental Divide, 440-680 bears; Selkirk Mountains, at least 19 bears) and Cabinet/Yaak, approximately 15 bears. To learn recovery potential in Washington's North Cascades and Idaho's Bitterroot Mountains, evaluations of grizzly presence and habitat were done, and the North Cascades were recommended as another recovery zone. While some people think Colorado's San Juan Mountains harbor a few grizzlies, no populations are known to exist, according to Colorado Division of Wildlife biologists.

The rugged San Juans figure into the picture because in 1979 an outfitter killed a 16-year-old female grizzly after the bear reportedly attacked him. Prior to that, it was thought that Colorado's last grizzly bear was killed by a government trapper in 1952.

Since then, extensive efforts by the Division and private citizens to find grizzly bears in the state -- through aerial surveys, ground searches and analysis of tracks, dens and hair samples -- have been inconclusive.

A federal recovery plan calls for establishing a minimum population of 70-90 grizzlies in each recovery zone, provided there is enough habitat to support the population. At least 70 bears are needed initially to assure that the population would still exist after 100 years. Researchers believe such a population would require 2,000 square miles of habitat.

While some people favor grizzly reintroduction in Colorado, no such efforts are planned. The Colorado Wildlife Commission currently opposes reintroduction because of potential conflict with livestock, humans and wildlife. The commission will consider reintroduction only upon public and recovery team review, and inclusion in approved recovery plans pursuant to existing laws and regulations. Because reintroduction efforts would be costly, thought must be given to whether limited funds would be better spent benefitting animals lower in the food chain upon which the health of whole ecosystems may depend.

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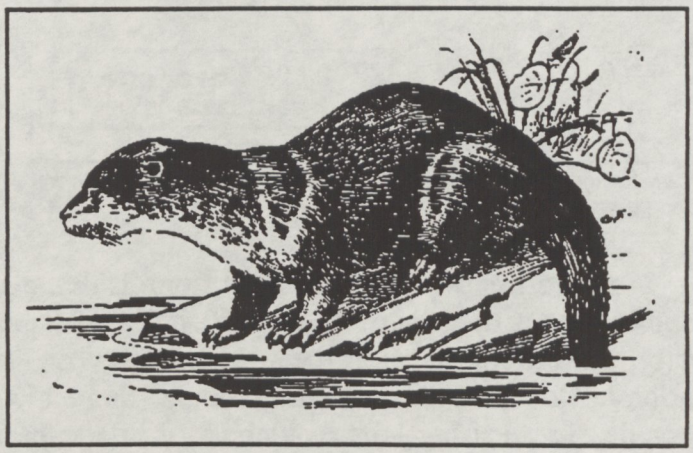
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

RIVER OTTER

One hundred years ago, river otters swam in streams throughout Colorado, but by the early 1900s they had vanished due to human impact. The species was listed as endangered in the state in 1975.



American river otter

The North American river otter is a Colorado native. A large member of the weasel family, river otters are generally 30-40 inches long and may weigh more than 30 pounds. The average weight is 18 pounds for males and 15 pounds for females. Their sleek, muscular bodies are particularly well-suited to swimming because short legs, webbed feet and powerful tails help propel them through the water. Otters commonly slide along mud or snow banks rather than walk or run. While this activity looks playful, it is actually an efficient method of moving around, especially in deep snow. Otters eat a variety of other animals but prefer fish and crayfish. They usually opt for the most easily captured prey, so they tend to eat slower and more abundant fish such as carp and suckers. The average lifespan of a river otter is 10-12 years.

DECLINE OF THE SPECIES: During the days of unregulated commercial trapping, otters were almost wiped out by trappers seeking rich, brown furs. Water pollution, dams and other conflicts with humans also depleted otter populations until the species disappeared from Colorado. The last documented evidence of wild native river otters in the state is a photograph of two animals trapped on the Yampa River in 1906.

CURRENT STATUS AND PLANS FOR RECOVERY: River otters have made a comeback in Colorado and now live in several river systems, thanks to reintroduction efforts by the Colorado Division of Wildlife. In the late 1970s, otters were brought from other states to Colorado. In all, 115 otters have been released in Colorado rivers.

A six-year study of 29 river otters released in the state indicates that reintroduction has been successful. Reproducing populations exist in Rocky Mountain National Park and the Piedra

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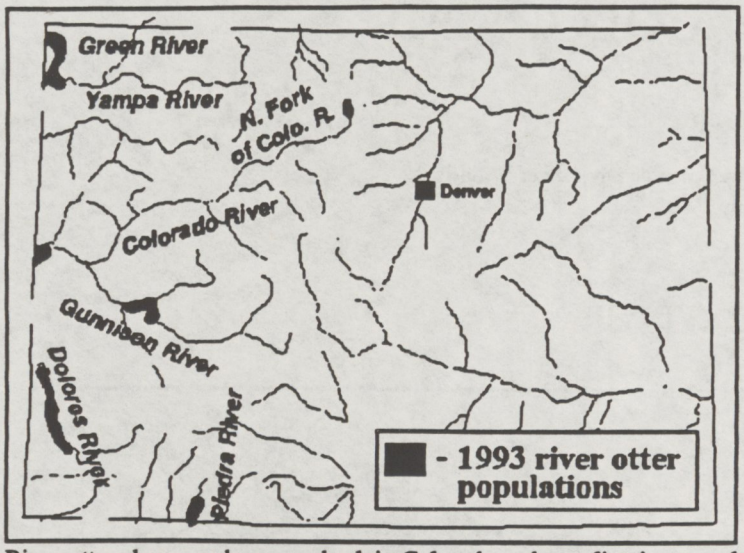

River otters have made a comeback in Colorado and now live in several river systems. (WRIS 1993.)

and Dolores rivers. Smaller populations live in the Gunnison, Upper Colorado and Uncompaghre river systems. The study indicated otters can tolerate more turbid water than was originally thought, so a wide array of Colorado rivers can now be considered for future releases.

Because river otters frequently move and are very secretive, it is impossible to estimate the current population. Documentation of their presence in various river systems is based not only on sightings but on radio telemetry, tracks, scat and evidence of feeding.

For the species to be downlisted from its designation as endangered, three documented reproducing populations must occupy 50 miles of habitat in three different river drainages. Currently, the criteria have not been met in even one drainage, though there is a good core population in Rocky Mountain National Park. Some biologists believe that the best chance for recovery lies in releasing larger numbers of otters, perhaps 30 or 40, at a site with a large amount of continuous habitat. But it's not easy to obtain otters because they are difficult to trap live. The Division is preparing a recovery plan for the species.

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THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

WOLVERINE

With nicknames like glutton, skunk bear and devil beast, you'd think wolverines would be able to hold their own in the wilderness. But despite a reputation for fierceness, wolverines have become rare in the United States.

Although fairly common in Canada and Alaska, the species has been on Colorado's endangered list since 1973.

Wolverine

Often likened to small bears, wolverines are the largest members of the weasel family. Adults range in length from 29-32 inches from nose to rump, and a bushy tail accounts for another 7-9 inches. Males may weigh more than 30 pounds, but females are smaller. Wolverines are compact and strongly built with short necks, broad, flattened heads and powerful jaws. Carrying their heads and tails lower than their backs, they move with a lumbering gait. Their rich brown fur has yellowish-brown stripes extending from the shoulders along the sides to the base of the tail. Their heads are also light brown, except for black muzzles, and they have small eyes. Wolverines have short legs and large five-toed feet equipped with long, sharply-curved, non-retractable claws well-suited to climbing and digging. Wolverine fur was valued as a trim for parkas because it sheds moisture.

Wolverines eat anything they can catch, find or steal, ranging from deer, squirrels and fish to nuts and blueberries. Some biologists believe that wolverines do not necessarily hunt for their food in a traditional sense, but rather, wander around looking for something to eat, such as food caches made by themselves, other wolverines or carnivores. They have been known to mark caches, territory and traps with a foul-smelling musk.

An individual wolverine's typical range may cover more than 200 miles, and their preferred habitat is large tracts of dense mountain forests with meadows and marshy areas. Ideally, their habitat is undisturbed by roads and humans and has a variety of small and

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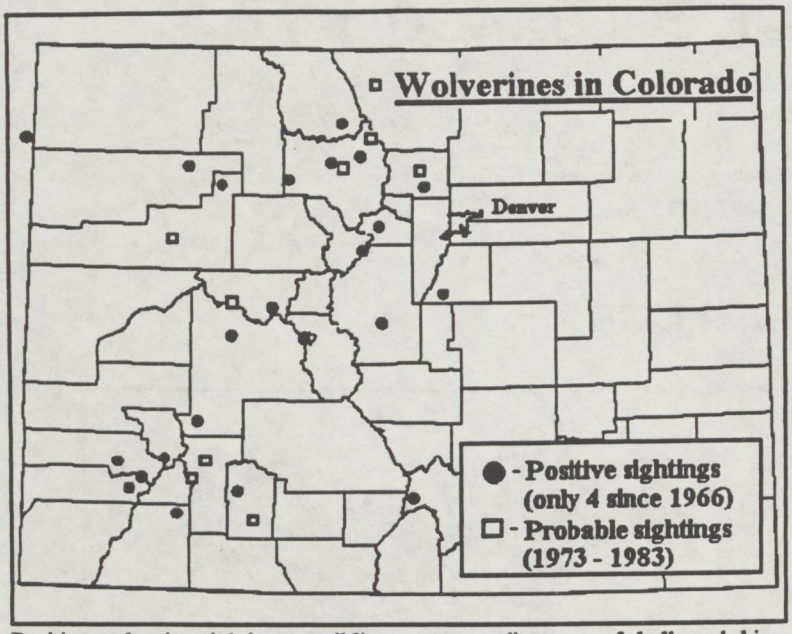

Positive wolverine sightings entail live capture or discovery of skulls and skins. Most date between 1870-1919. Probable sightings involve photos, observation, hair, tracks and scat. (WRIS 1993.)

large mammals.

Wolverines are solitary animals except during summer breeding season. Females carry an unimplanted egg until the following December or January when gestation begins. They usually have two or three kits in spring, which reach adult size by the early winter. A wolverine's lifespan is 8-11 years.

DECLINE OF THE SPECIES: Because the Rocky Mountains are at the southern edge of the wolverine's traditional range, the species was probably never common in Colorado.

To some extent, the population has diminished due to habitat loss caused by human encroachment. Because of their taste for carrion, wolverines fell victim in the past to poisoned bait put out for predators. While this practice is restricted by law on public land, it still occurs.

CURRENT STATUS AND PLANS FOR RECOVERY: Because wolverines were traditionally uncommon in Colorado and individuals can occupy large tracts of mountainous land, it is nearly impossible to estimate the state's current population. Occasional reliable sightings and discovery of tracks indicate that wolverines exist in the state. The Colorado Division of Wildlife has developed a brochure to heighten awareness of wolverines in an attempt to encourage reports of sightings. In conjunction with the Colorado Trappers Association, the Division is developing a program in which trappers may provide wolverine information. Also, the Division is studying wolverine information as a prelude to developing a recovery plan. Reintroduction may be considered depending on research findings. Current recovery efforts entail habitat protection.

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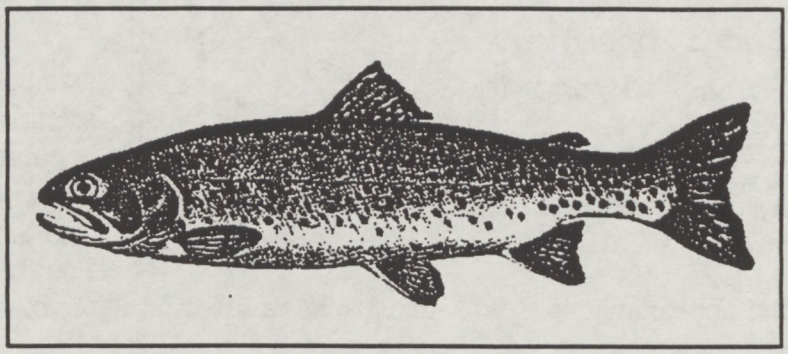
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

GREENBACK CUTTHROAT TROUT

Certain Colorado streams were once teeming with greenback cutthroat trout, but these vibrant natives were nearly driven to extinction by the actions of man.

Listed as endangered by federal and state authorities in 1973, the species was downlisted to threatened status in 1978. Recovery has progressed to a point where catch-and-release fishing is now allowed for greenbacks.



Greenback cutthroat trout

Greenback cutthroats are the only trout native to the headwaters of the South Platte and Arkansas rivers. True to their name, these trout have a rich green hue on top and blood-red stripes on each side of their throat, under the jaw. Their color is contrasted by pale yellow sides and bellies. Greenbacks were once called black-spotted natives for the dark round spots that run along their backs and concentrate toward the tail. In spawning season, older male greenbacks are blood-red on their lower sides.

Depending on elevation, spawning occurs from early April to mid-July, although some males in high elevation streams may still be in spawning colors in mid-September. Greenbacks primarily eat insects and live for about seven years. Growth depends on elevation and population density, but as a rule, greenbacks rarely exceed a foot in length and 2 pounds in weight.

DECLINE OF THE SPECIES: Greenbacks declined so rapidly in the 1800s that their historical range is not known. Biologists believe the species was abundant in the mountains and foothills of the Arkansas and South Platte river systems in Colorado and part of Wyoming.

Habitat loss due to water diversions, logging, mining and overgrazing contributed to the decline. But the biggest toll was exacted by the introduction of non-native trout such as rainbow, brook, brown and Yellowstone cutthroat trout, beginning in the late 1800s.

At the start of the 19th Century, greenbacks were the only trout in the South Platte and Arkansas rivers, but the arrival of the railroad and fish hatcheries meant that large numbers of fish eggs and fry could be transported in a short period of time. Because

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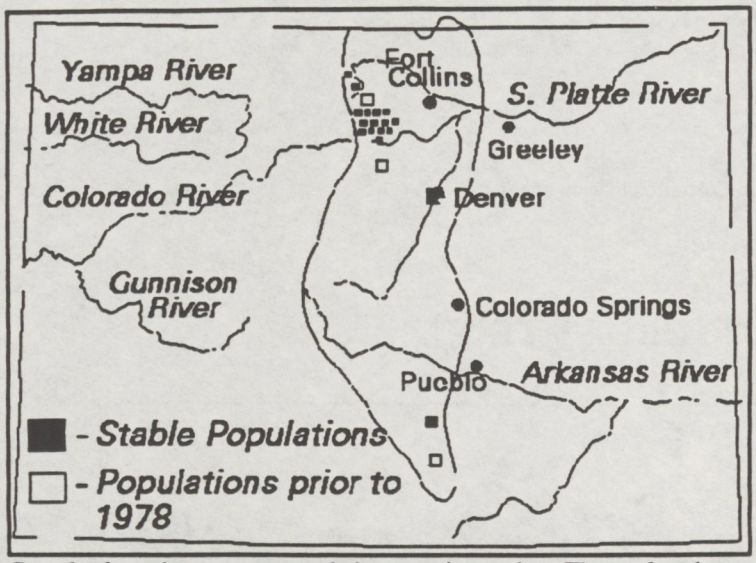

Greenback cutthroat trout populations are increasing. The enclosed area represents probable historic range. (Map reflects populations as of 1991.)

greenbacks weren't easily raised, other species such as brook and rainbow trout were reared and stocked instead. The heightened competition and predation, especially by brook trout, devastated greenback populations.

Another factor was the hybridization of greenback cutthroats with other spring-spawning trout such as rainbows.

As early as 1937, the species was considered extinct. But in 1970, scientists verified that two small pure populations existed. Segments of Como Creek in Boulder County and the South Fork of the Cache La Poudre River in Larimer County supported approximately 2,000 greenbacks in 4.6 kilometers of stream.

CURRENT STATUS AND PLANS FOR RECOVERY: Conservationists started the path toward greenback recovery in 1959 when non-native fish were removed from a lake in Rocky Mountain National Park, and greenback cutthroats were stocked. Unfortunately those fish were later found to be hybrids. In 1971, a transplant of 50 Como Creek greenbacks into the North Fork of the Big Thompson resulted in a stable pure greenback population by the early 1980s. With passage of the Endangered Species Act in 1973, recovery efforts were stepped up. A recovery plan written in 1977 stressed removal of non-native fish and reintroduction of pure greenbacks. To allow for catch-and-release fishing and assist in habitat acquisition, the species was downlisted to threatened in 1978.

The Colorado Division of Wildlife, working with the U.S. Fish and Wildlife Service, other federal agencies and sportsmen's groups, has protected greenback populations, created captive broodstock, removed non-native fish from greenback habitat and reintroduced the colorful cutthroats to their native waters. Rocky Mountain National Park has been a focal point of recovery efforts.

Since 1973, seven additional historic populations have been discovered -- five in the South Platte River drainage and two in the Arkansas River. Greenback cutthroat trout are now present in 51 sites that total 247 acres of lakes and ponds and 89 miles of stream habitat. Twenty-nine sites are open to catch-and-release fishing, and 19 populations are considered stable. Two of those stable populations are in the Arkansas River system.

Biologists believe the species can be delisted by the year 2000. This requires that there be 20 stable populations maintained in at least 123 acres of lakes and ponds and 31 miles of stream. At least five of the stable populations must be in the Arkansas River system.

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Coloradans help recovery efforts by contributing Income Tax Checkoff dollars to the Nongame and Endangered Wildlife Program.

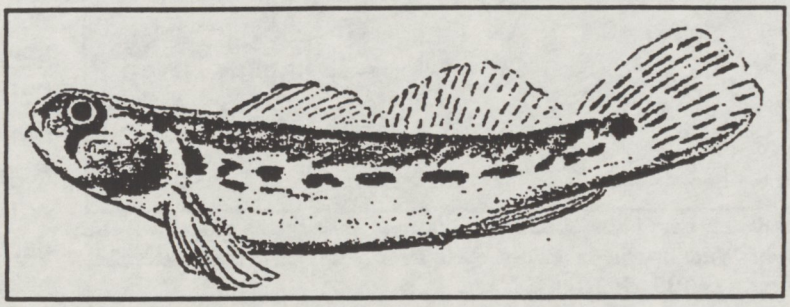
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

ARKANSAS DARTER

Grizzly bears are the largest of Colorado's threatened and endangered species and Arkansas darters are the smallest.

Arkansas darters rarely grow more than 3 inches long. Related to walleyes and yellow perch, they do not enjoy the strength in numbers of their common sport-fish cousins. Arkansas darters have been on Colorado's threatened species list since 1988.



Arkansas darter (Illustration by Vicki H. Mayea.)

A small darter, with an equally small mouth and snout, Arkansas darters have different color patterns depending on their sex. Males are olive green on their backs with splotches across the top of the back and a line of dark speckles along the sides. During the April to May breeding season, their stomachs and gills are bright orange. Females are dark tan with brown-black on top with the same speckled pattern along the back and sides as the male. Their stomachs are whitish. Both males and females have a dark, wedge-shaped vertical bar beneath their eyes.

Arkansas darters have a very restricted natural range and are found only in tributaries of the Arkansas River in Colorado, Kansas, Missouri and Oklahoma.

This native prefers cool, clear, spring-fed pools and creeks with abundant vegetation. Mayflies are the species' favorite food, but they also eat dragonflies, caddisflies and fish eggs, as well as small plant leaves and seeds. Breeding occurs in early spring in open areas where organic ooze covers sandy riverbottoms.

DECLINE OF THE SPECIES: While Arkansas darters can withstand short-term disruptions of habitat, they are unable to tolerate silty accumulations in the streams where they live. With the settlement and cultivation of Colorado's eastern plains came significant alterations of rivers and streams. Water projects reduced available habitat for Arkansas darters. Overgrazing of livestock along streams also damaged the darter's habitat by increasing the water's silt content.

CURRENT STATUS AND PLANS FOR RECOVERY: In Colorado, isolated populations of Arkansas darters have been found in several spring areas adjacent to Fountain Creek south of

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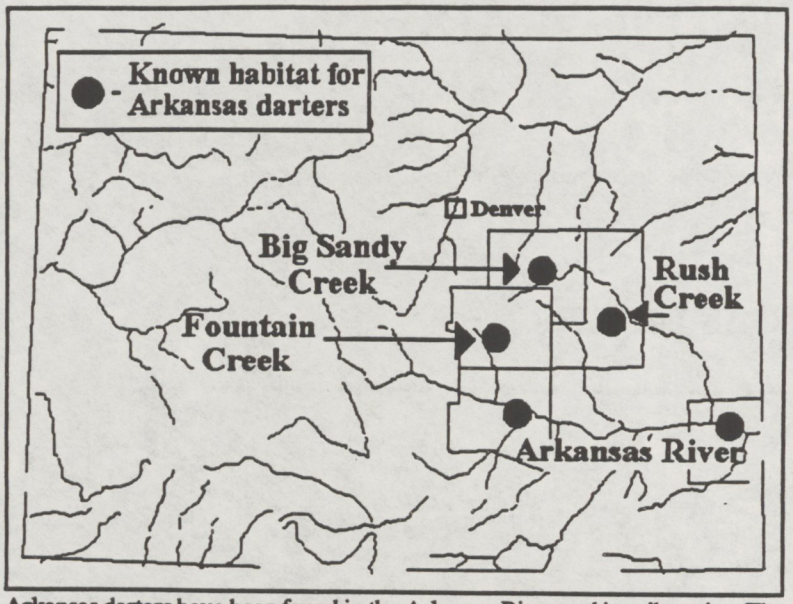

Arkansas darters have been found in the Arkansas River and its tributaries. The Division of Wildlife will inventory other stream habitat to help determine habitat needs. (WRIS 1993.)

Colorado Springs, the Rush Creek and Big Sandy Creek branches of the Arkansas River and other small tributaries.

In May 1993, the Colorado Division of Wildlife announced its plans to launch a three-year project to inventory stream habitat for Arkansas darters and other native fish of the eastern plains. The Division will spend nearly $200,000 to study native fishes in the South Platte, Arkansas and Republican river drainages. Crews will visit more than 600 sites, determining the populations and habitat needs of the fish in those drainages.

After the inventory and evaluation is wrapped up, the wildlife agency will start looking at ways to help those species in jeopardy. Efforts could include raising and stocking native fishes, preserving key habitats, buying water and working with water users to make sure the fish have the habitat needed to survive.

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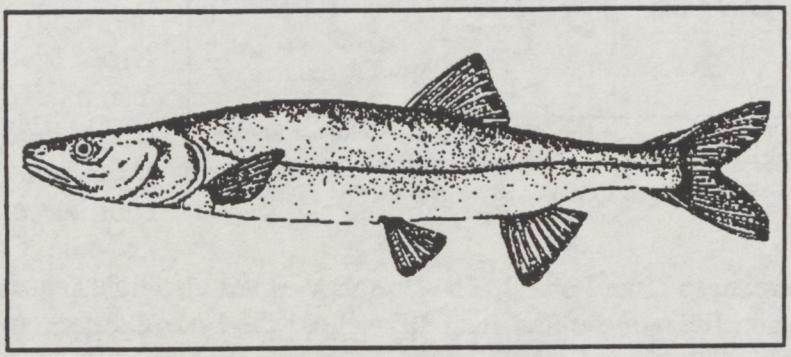
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

COLORADO SQUAWFISH



Colorado squawfish

Many fish eat other fish. Colorado squawfish, the largest minnow in North America, start eating other fish when only an inch long. When larger, they've been known to eat mice, birds and even jack rabbits used as bait.

Historically, Colorado squawfish sometimes grew to 6 feet and weighed more than 80 pounds. These native fish once ruled their waters, but were placed on the federal endangered species list in 1967 and on Colorado's endangered list since 1976.

Colorado squawfish are torpedo-shaped with olive-green and gold backs and silvery bellies. They may live 50 years but now rarely exceed a size of 36 inches and 15 pounds. Colorado squawfish were once abundant in the Colorado River and most of its major tributaries in Colorado, Wyoming, Utah, New Mexico, Arizona, Nevada, California and Mexico.

After reaching six years of age or 16 inches in length, squawfish spawn between late June and early September. They have been known to migrate 200 miles to spawn, and this trait plus their large size, led them to be nicknamed white salmon and Colorado salmon. An important food for Native Americans and early settlers, they were once described as the best food fish in the lower Colorado River. Anglers also prized the size and fight of the species.

DECLINE OF THE SPECIES: Like razorback suckers, humpback chubs and bonytail chubs, Colorado squawfish are endangered because of human impact on their habitat over the last 100 years. Water development and introduction of non-native fishes have taken a toll.

To meet demand for water and hydroelectric power, dams, canals and irrigation projects have been constructed on the Colorado River and its tributaries. These alterations have changed stream flows, water temperatures and nutrient levels. They also blocked migration routes and eliminated warm backwaters that provided safe nursery and resting areas for native fish.

To satisfy a public that clamored for more fishing opportunities, stocking of non-native fish in the Colorado River system began in the late 1800s. Colorado squawfish and other natives suffered from heightened competition and predation from non-natives. (Non-native trout favor

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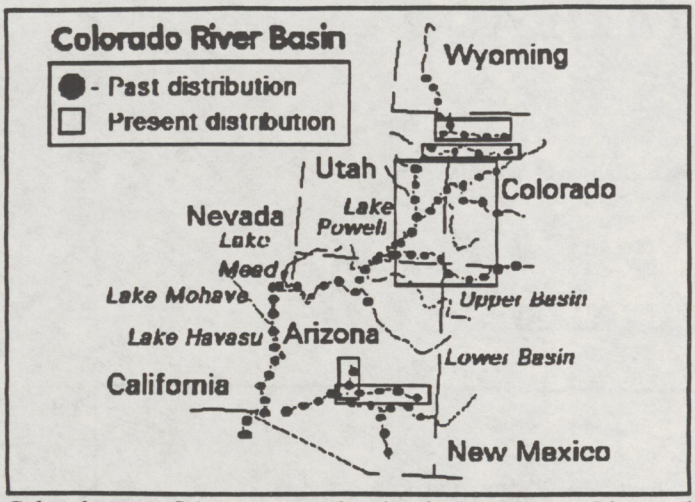

Colorado squawfish were once abundant in the Colorado River and its tributaries. Now, as few as 10,000 squawfish may exist, primarily in the upper basin of the Colorado River system. (WRIS 1993.)

colder waters and are not generally considered a threat to squawfish.) Squawfish numbers temporarily dropped in the 1960s when fish poisons were used in some areas to make way for non-native sport fish by reducing native fish.

CURRENT STATUS AND PLANS FOR RECOVERY: As few as 10,000 adult Colorado squawfish may be left in the wild. They exist primarily in the Green River below its confluence with the Yampa River, the Yampa River below Craig, the White River from Taylor Draw Dam near Rangely downstream to the confluence with the Utah's Green River, and the Colorado River from Palisade downstream to Lake Powell. The Gunnison River also holds squawfish, and a small reproducing population lives in the San Juan River near the Four Corners area. The lower Colorado River basin lacks wild populations but squawfish have been stocked in Arizona's Salt and Verde rivers.

From 1982 to 1984, the U.S. Fish and Wildlife Service stocked about 75,000 tagged, hatchery-raised Colorado squawfish fingerlings in the Colorado and Gunnison rivers. In 1990, three were found in the upper basin that had reached a length of 22 to 24 inches. Researchers are trying to determine if young squawfish are "imprinted" in their rivers of origin with information telling them where to return to spawn. If so, some sort of effort may be needed to get hatchery-raised fish to spawn in the wild.

In 1991, biologists were heartened to find 47 adult and 36 young Colorado squawfish that were apparently part of a naturally reproducing population in the upper Colorado River between Palisade and its confluence with the Green River.

Hatchery-raised squawfish were stocked at Kenney Reservoir near Grand Junction in 1988-90 to determine if an experimental sport-fishery could be created. Stocking was stopped because most of the squawfish moved into the White River. Colorado Division of Wildlife hatchery workers have done pioneering work on hatching and rearing squawfish. Hatchery-raised squawfish are an important tool of recovery, but success hinges on the establishment of self-sustaining, genetically diverse populations. Recovery requires improvement and protection of habitat so that stocked and wild squawfish can thrive. Spring runoff flows may cue endangered native fish to spawn, so water flow management is being studied as one way to aid recovery.

Since 1988, the Recovery Program for the Endangered Fishes of the Upper Colorado has led efforts to re-establish self-sustaining populations of Colorado squawfish, razorback suckers, bonytail chubs and humpback chubs while providing for new water development. Cooperating in the 15-year project are state and federal agencies, as well as wildlife and water groups.

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THREATENED AND ENDANGERED SPECIES OF COLORADO

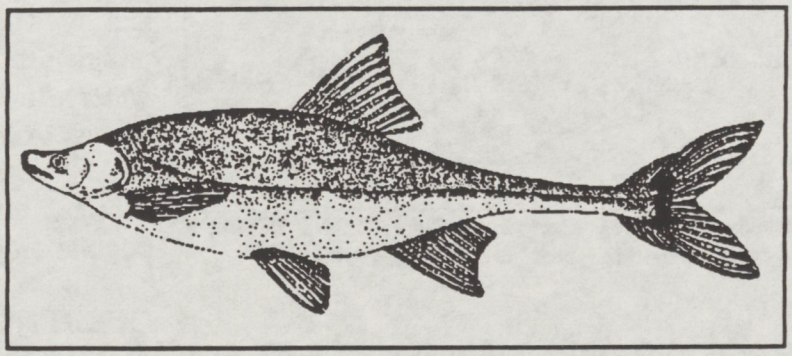
A fact sheet prepared by the Colorado Division of Wildlife
July 1993

BONYTAIL CHUB

If bonytail chubs are allowed to "go with the flow," they might be gone forever.

The most endangered of the fishes native to the upper and lower Colorado River basin, bonytail chubs are nearly extinct in the wild. Very few have been captured in the last 15 years.

Listed as endangered in Colorado in 1976, bonytails received federal endangered status in 1980.



Bonytail chub

Bonytail chubs are minnows that have large fins and streamlined bodies that become thin in front of the tail. They have gray or olive-colored backs, silver sides and white bellies. While they can grow to 24 inches, sizes of 12-14 inches are more common. Bonytail chubs have been known to live nearly 50 years.

Depending on their habitat, bonytail chubs eat insects, plankton, algae and small fish. They are believed to spawn during late June and early July after reaching an age of 1 or 2 years and a size of 6 inches. There are no confirmed reproducing populations in the wild.

Once abundant in parts of the upper and lower Colorado River Basin from Wyoming to Mexico, only a few bonytail chubs have been found recently on the Yampa River in Dinosaur National Monument, the Green River at Desolation and Gray canyons, the Colorado River at the Colorado-Utah border and at the confluence of the Green and Colorado rivers upstream from Lake Powell. In the lower Colorado River basin, below Lake Powell, bonytails have only been found in Mohave and Havasu lakes.

DECLINE OF THE SPECIES: Although bonytail chubs are thought to have evolved about 10,000 years ago, they've become endangered because of human impact on their habitat over the past 100 years. Dams, canals and irrigation projects built on the Colorado River and its tributaries to meet demand for water and hydroelectric power altered their habitat. In the lower Colorado River Basin, the once free-flowing, silty and warm waters became a series of lakes connected by cold, clear waters downstream from dams.

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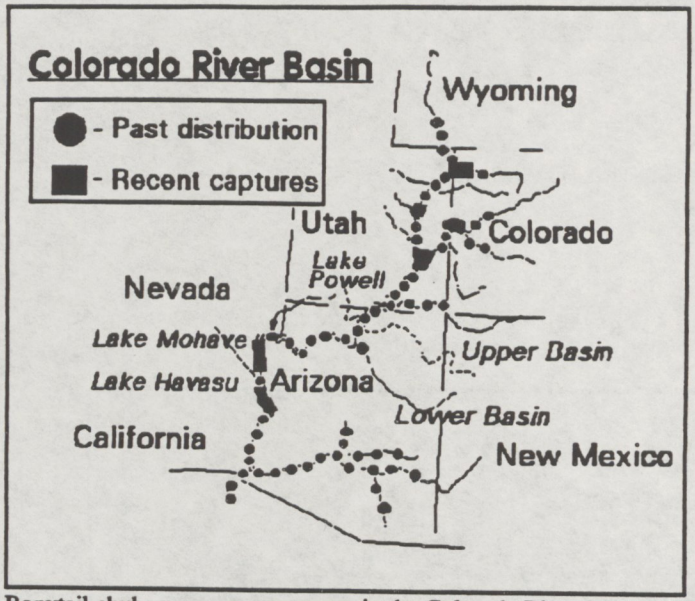

Bonytail chubs were once common in the Colorado River Basin, but few have been captured in recent years. (WRIS 1993.)

Alterations of habitat caused harmful changes in stream flow and water temperature, as well as the elimination of warm backwaters that provide safe nursery and resting areas for native fish away from the main current.

To meet public demand for more fishing opportunities, non-native fish were stocked in the Colorado River starting in the late 1800s. The increased competition and predation have affected native fish populations. (Because trout prefer colder waters, they are not generally considered threats to these native fish.)

Hybridization between chub species may have also reduced the population of pure bonytails.

CURRENT STATUS AND PLANS FOR RECOVERY: Bonytail chubs are very rare. Researchers collected 48 adult bonytails from Lake Mohave between 1974-1989, and anglers occasionally catch them at Lake Havasu. A few bonytails have been collected in various reaches of their upper basin habitat but not enough to suggest that self-sustaining populations exist. None have been captured in the past several years. In Cataract Canyon, 20 miles upstream from Lake Powell, only two fish thought to be juvenile bonytails have been found since 1985.

From some captured bonytails, a brood stock was established to protect them in case a natural disaster further depletes their ranks in the wild. In the 1980s, thousands of bonytail fingerlings were released into Lake Mohave, and while some were found in subsequent years, the long-term success of the stocking efforts is not known. Some evidence indicates that hatchery- or pond-raised adult bonytails adapt better to lakes than rivers.

While hatchery-raised bonytails are an important recovery tool, ultimate success is measured by the establishment of self-sustaining wild populations.

Currently, primary recovery efforts entail the protection and improvement of natural habitat through water flow management. Other recovery strategies include raising bonytails in hatcheries, reintroduction, monitoring wild populations and research. Biologists are also working to improve identification techniques.

Since 1988, the Recovery Program for the Endangered Fishes of the Upper Colorado has led efforts to re-establish self-sustaining populations of bonytail chubs, humpback chubs, razorback suckers and Colorado squawfish while providing for new water development. Cooperating in the 15-year program are state and federal agencies as well as wildlife and water groups.

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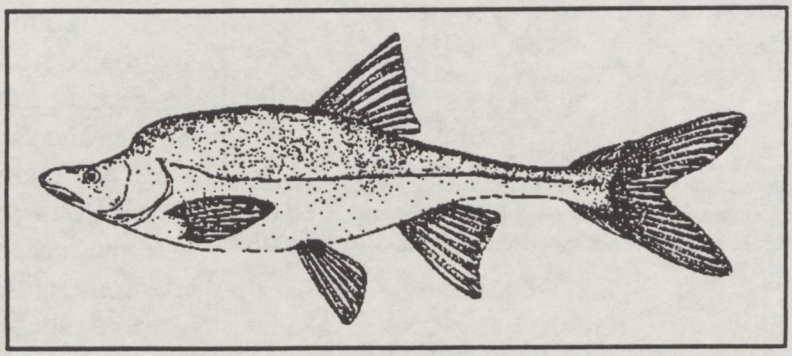
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

HUMPBACK CHUB



Humpback chub

Humpback chubs are frequently called remarkable, bizarre and striking. Another common adjective is endangered.

Federally listed as endangered since 1964, humpback chubs were added to the Colorado endangered list in 1976.

A member of the minnow family, humpback chubs have brown or olive-colored backs, silver sides and small eyes. They are named for the pronounced hump behind their heads, and their unusual appearance is further accentuated by a long snout that overhangs their jaw.

Found exclusively in the Colorado River Basin, humpbacks are thought to have evolved about 10,000 years ago. They can grow to nearly 20 inches long and may live for more than 30 years in the wild. Humpbacks spawn between March and July when they are as young as 3 years old and at lengths as small as 5 inches.

The biggest concentrations of humpback chubs have been found in the rivers coursing through steep-walled canyons. Because their habitat is so remote, the species was largely unstudied until after World War II when the advent of rubber rafts allowed better access. Some biologists believe the species' prominent hump helps humpbacks live in the fast water of deep canyons because it enables the fish to swim more easily to the bottom where water is less turbulent. The snout may allow humpbacks to eat without the mouth filling with rushing water.

Historically, humpback chubs lived in portions of the Colorado River and four of its tributaries: the Green, Yampa, White and Little Colorado rivers. Now, the largest known populations are in the Little Colorado River in the Grand Canyon where there may be up to 10,000 fish and in the Colorado River near the Colorado-Utah border. Smaller numbers have been found in the Yampa and Green rivers in Dinosaur National Monument, Desolation and Gray canyons on the Green River in Utah, Cataract Canyon on the Colorado River in Utah and

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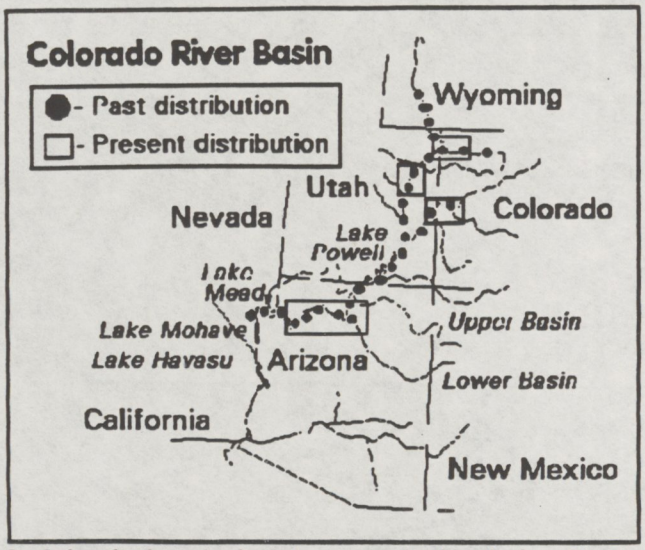

In Colorado, humpback chubs are predominantly found in the Yampa Canyon in Dinosaur National Monument, in the Little Snake River and in stretches of the Colorado River. (WRIS 1993.)

the Colorado River in Arizona. There are no population estimates available for chubs in the upper Colorado River Basin.

DECLINE OF THE SPECIES: Like the Colorado squawfish, razorback sucker and bonytail chub, humpback chubs became endangered in the Colorado River Basin because of human impact on their habitat over the last 100 years.

To meet public demand for water and hydroelectric power, dams, canals and irrigation projects were built on the Colorado River and its tributaries. These projects altered stream temperatures and flows, and eliminated warm backwaters where native fish rest and rear their young away from the faster main river channels. Also, dams may have isolated small populations in such a way that the gene pool was limited. This would reduce that population's ability to adapt to changing conditions. Hybridization between chub species may have also reduced pure humpback populations.

Native humpbacks also suffered from the increased competition and predation stemming from the introduction of non-native fish, beginning in the late 1800s.

CURRENT STATUS AND PLANS FOR RECOVERY: The Little Colorado River, a tributary to the Colorado River in Grand Canyon, contains the largest population of humpback chubs in the lower basin. More than 4,000 humpbacks have been captured in the area since 1984. In the upper basin of the Colorado River, the highest known concentration of humpback chubs is found in the Black Rocks and Westwater Canyon reaches of the Colorado River near the Colorado-Utah state line. A spawning population exists in the Yampa Canyon in Dinosaur National Monument, and in 1988 several humpbacks were collected from the Little Snake River about six miles upstream from its confluence with the Yampa River.

The recovery plan for the humpback chub is to protect five, self-sustaining populations by determining the needs of the fish at different life stages, monitoring fish populations and protecting their habitat.

Since 1988, the Recovery Program for the Endangered Fishes of the Upper Colorado has led efforts to re-establish self-sustaining populations of humpback chubs, bonytail chubs, razorback suckers and Colorado squawfish while providing for new water development. Cooperating in the 15-year project are state and federal agencies, as well as wildlife and water groups.

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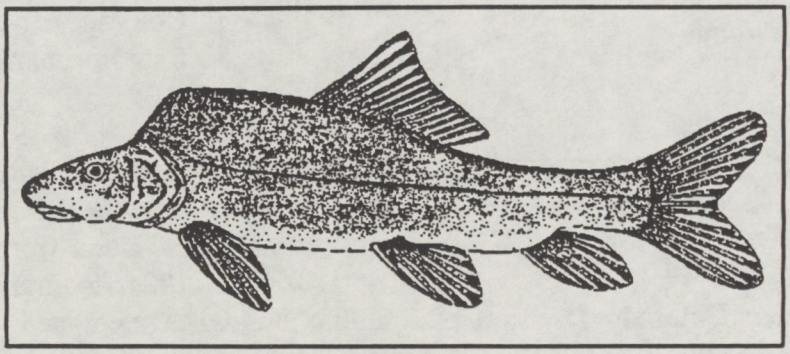
THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

RAZORBACK SUCKER



Razorback sucker

Biologists are trying to stave off extinction for a fish that has been native to what is now Colorado for as long as 4 million years.

Razorback suckers evolved in the Colorado River Basin and are found nowhere else. Once widespread in the Colorado River system between Wyoming and Mexico, they are now rare. The species was listed as endangered in Colorado in 1979. It was listed as endangered federally in 1992.

One of the largest suckers in North America, razorbacks can grow to more than 13 pounds and exceed 3 feet in length. They are brownish-green with a yellowish or white belly. A keel-edged hump on their backs just behind their heads lent razorbacks their name.

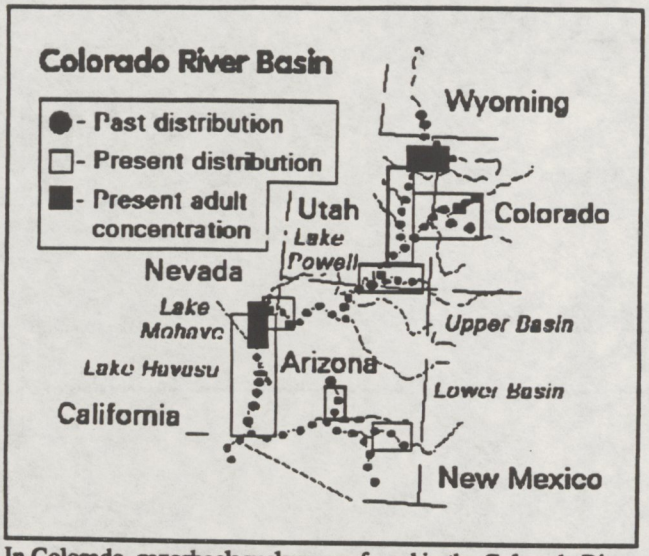
Razorback suckers spawn as early as age 3 or 4 when they are 14 or more inches long. Depending on water temperature, spawning can occur as early as November or as late as June. Razorbacks have been known to live 30 years or more.

DECLINE OF THE SPECIES: Like the Colorado squawfish, humpback chub and bonytail chub, razorback suckers are endangered because of human impact on their habitat over the past 100 years. Water development and introduction of non-native fishes have taken a toll.

To meet demand for water and hydroelectric power, hundreds of water projects, including dams, canals and irrigation projects have been constructed on the Colorado River and its tributaries. Water projects have restricted the four endangered native fishes to 25 percent of their former range. Altered habitat led to changes in stream flows, water temperatures and nutrient levels. Alterations also eliminated warm backwaters that provided safe nursery and resting areas for native fish away from the river's main channel.

Public demand for more fishing opportunities led to stocking non-native fish in the Colorado River system beginning in the late 1800s. As a result, native fishes suffered from heightened competition and predation by non-natives. (Non-native trout are not considered threats to these endangered fish because they tend to live in colder parts of the river.)

(OVER)



In Colorado, razorback suckers are found in the Colorado River near Grand Junction. A spawning population lives in the lower Yampa River. (WRIS 1993.)

CURRENT STATUS AND PLANS FOR RECOVERY: In the upper Colorado River Basin (above Lake Powell), about 1,000 razorback suckers live in Utah's upper Green River. In Colorado, razorbacks are found in the Colorado River near Grand Junction. A spawning population lives in the lower Yampa River. Small populations also exist in the Dirty Devil, San Juan and Colorado river "arms" of Lake Powell. In the lower Colorado River Basin, razorbacks have been found primarily in Lake Mohave.

In 1991, biologists found 13 adult razorback suckers in a 25-acre private pond near DeBeque. The fish apparently entered the pond from the Colorado River during a 1984 flood and were isolated when the river receded. Colorado Division of Wildlife biologists recovered 67 more razorbacks from the DeBeque pond in April 1993. Biologists are awaiting results of genetic studies done to determine the purity of the DeBeque pond razorbacks.

Also in April 1993, biologists found three adult razorbacks in the Colorado River near Grand Junction. Thought to be 15-30 years old, the fish, two females and one male, are the first razorbacks caught in the Colorado River since 1988. Shortly thereafter, eggs fertilized by milt (sperm) taken from the male Colorado River razorback were spawned at the Division's Wray Fish Hatchery. They were hatched and are being reared at the Division's research hatchery in Fort Collins.

Hatchery-raised razorbacks are an important recovery tool, but success hinges on the establishment of self-sustaining populations. Crucial to this goal are improvement and protection of river habitat so that stocked fish and remaining wild razorbacks can survive and reproduce. Researchers are also studying what role flooded bottomlands can play in the recovery of endangered fish.

Since 1988, the Recovery Program for the Endangered Fishes of the Upper Colorado has led efforts to re-establish self-sustaining populations of razorbacks, Colorado squawfish, bonytail chubs and humpback chubs while providing for new water development. Cooperating in the 15-year project are state and federal agencies, as well as wildlife and water groups.

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THREATENED AND ENDANGERED SPECIES OF COLORADO

A fact sheet prepared by the Colorado Division of Wildlife
July 1993

WOOD FROG

Wood frogs are the only cold-blooded terrestrial vertebrates able to live above the arctic circle, but in Colorado their survival is at risk.

The species was designated as threatened in the state in 1979.

Mottled with shades of brown, gray and black, wood frogs are recognizable by webbed hind toes, a dark mask across their eyes and a light stripe along the middle of their back. They also have folds of skin that extend down their back from just behind their eyes.

Wood frog

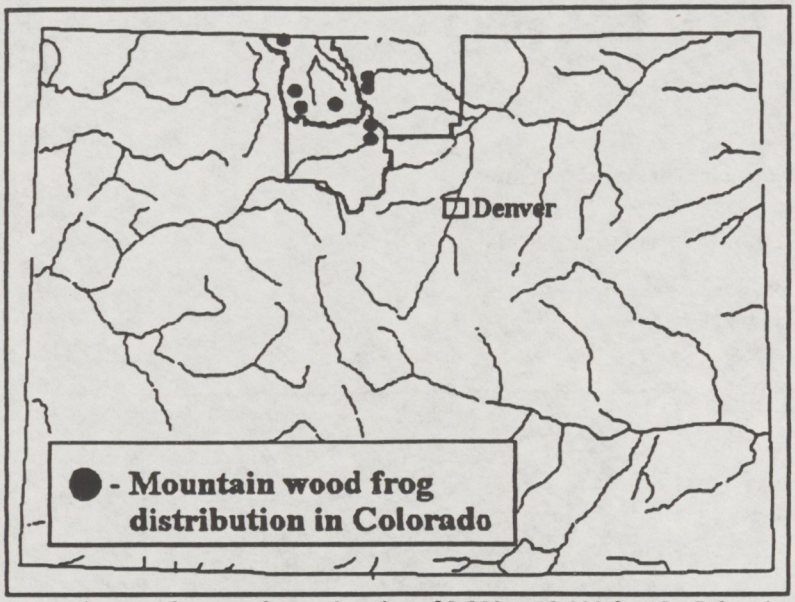
Attaining a maximum length of just over 3 inches, wood frogs have short hind legs that make them poor leapers in comparison to other frogs.

While wood frogs are widespread in northern and eastern North America, Colorado's population is restricted to the northcentral mountains. They prefer an elevation of 8,000 to 10,000 feet and are found around the margins of North Park, the upper tributaries of the Colorado River and in the upper Laramie River drainage. Wood frog habitat typically doesn't have fish or other amphibians.

Their habitat includes marshes, bogs, pothole ponds, beaver ponds, lakes, stream borders and wet meadows. After the frogs have left breeding ponds, they may live near willow thickets and streams running through subalpine forests. Wood frogs usually emerge from their winter retreats in holes under logs or rocks in May and stay active until September. They are generally active in daylight during spring, but they are active day and night during summer.

Wood frogs usually breed in small groundwater-fed ponds after the male calls females with a quick chorus of snoring notes. As is the case with many frog species, male wood frogs attempt to grab any frog that swims by, including males and other species. Only the female wood frog does not resist the male's clasp. Eggs are laid in late May to early June, and the metamorphosis of eggs to larvae to juveniles is complete by mid-August when young wood frogs join their adult counterparts in nearby pine and aspen forests. The species eats small insects, worms and spiders.

(OVER)



Mountain wood frogs prefer an elevation of 8,000 to 10,000 feet. In Colorado, they are found only in the Rocky Mountain regions of the north central part of the state. (WRIS 1993.)

DECLINE OF THE SPECIES: Wood frogs made their way into Colorado with Pleistocene-era glacial flows and became isolated in mountain areas when subsequent years brought a dryer climate to surrounding regions.

Their current distribution and scarcity in Colorado is related to a lack of suitable breeding and nonbreeding habitat. Over the past several decades, human impact has led to a decrease in Colorado's wood frog population. Wood frogs lost habitat in 1969 when shallow ponds near Rand and Chambers Lake were dredged or otherwise altered to make better fisheries. Road construction and housing development has also eliminated some wood frog habitat.

CURRENT STATUS AND PLANS FOR RECOVERY:

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COLORADO'S THREATENED OR ENDANGERED WILDLIFE

	FEDERAL	STATE
FISH		
Arkansas darter	--	t
Greenback cutthroat trout	T	t
Razorback sucker	E	e
Bonytail	E	e
Humpback chub	E	e
Colorado squawfish	E	e
Rio Grande sucker	--	e
AMPHIBIAN		
Wood frog	--	t
Western toad	--	e
BIRDS		
Lesser prairie-chicken	--	t
Arctic peregrine falcon	--	t
Piping plover	T	t
Greater prairie-chicken	--	t
Plains sharp-tailed grouse	--	e
Greater sandhill crane	--	t
American peregrine falcon	E	t
Bald eagle	T	t
Whooping crane	E	e
Least tern	E	e
Mexican spotted owl	T	t
MAMMALS		
Grizzly bear	T	e
Wolverine	--	e
River otter	--	e
Lynx	--	e
Gray wolf	E	e
Black-footed ferret	E	e

July 1995
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