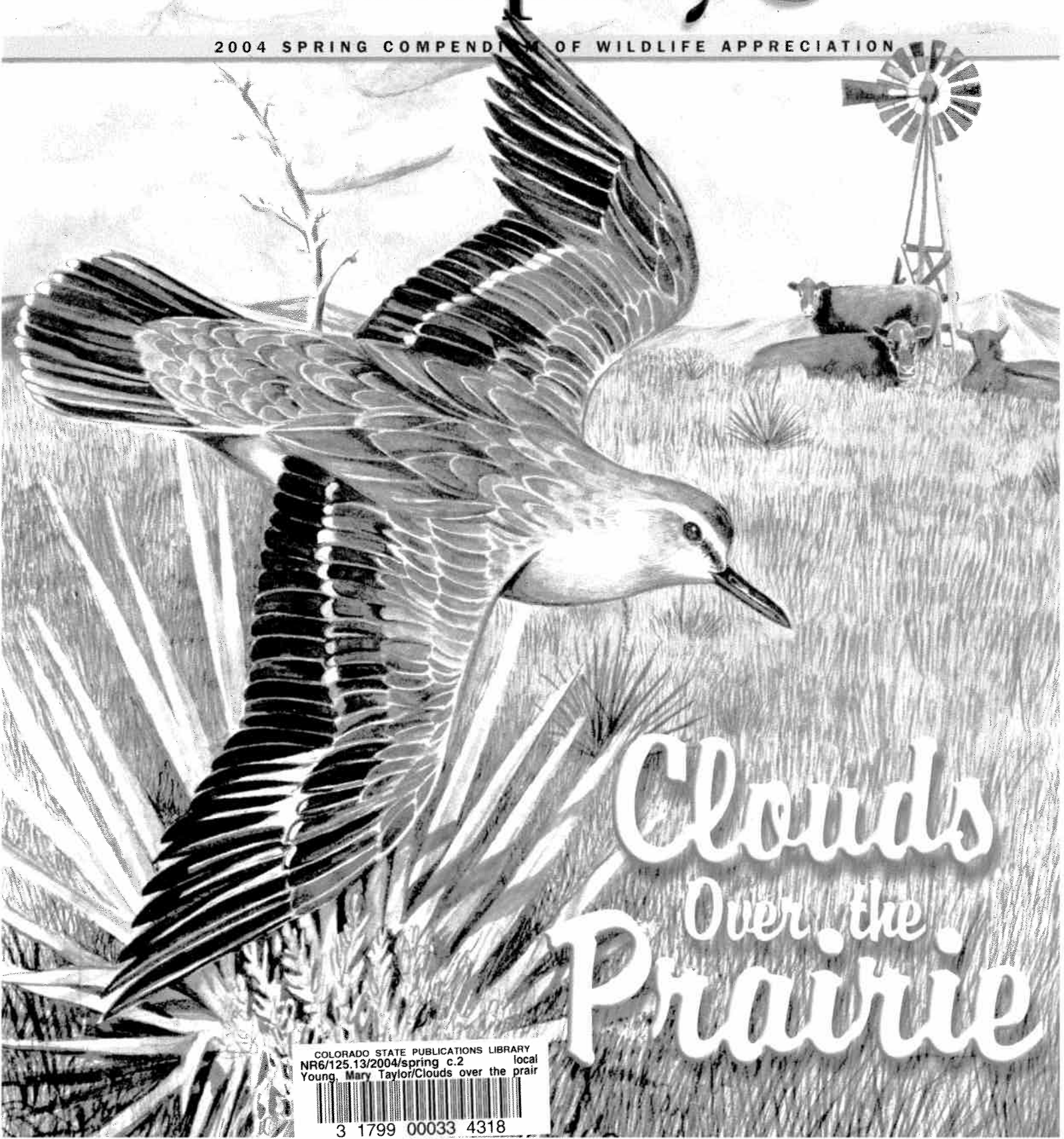


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# Colorado's Wildlife Company



2004 SPRING COMPENDIUM OF WILDLIFE APPRECIATION



## Clouds Over the Prairie

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Young, Mary Taylor/Clouds over the prair



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I think it does not come easily to us to love such a land. It is easy to love a mountain, with its inherent grandeur, handsome profile and aristocratic air. But the prairie's charms take more looking. The prairie doesn't run off with your heart the way a mountain does. Its beauties are subtle, rooted in the hues of the grasses, the undulations of the land, the infinite sky. The prairie is a girl whose beauty lies in her smile.

— *Land of Grass and Sky: A Naturalist's Prairie Journey*

Aside from the vast herds of bison which it contains, the country along the Platte is enlivened by great numbers of deer, badgers, hares, prairie wolves, eagles, buzzards, ravens, and owls: these, with its rare and interesting plants, in some measure relieved the uniformity of its cheerless scenery. We found a constant source of amusement in observing the unsightly figure, the cumbrous gait, and impolitic movements of the bison; we were often delighted by the beauty and fleetness of the antelope, and the social comfort and neatness of the prairie dog.

—from the journals of the Long Expedition, 1820

Mention Colorado and everyone thinks of the Rocky Mountains—grand scenery, breath-taking vistas, towering peaks. But the Eastern Plains make up some 40 percent of our state. While the mountains attract the headlines, it is on the prairie that people have made their living.

The world of the Great Plains lives in the popular imagination through images of homesteaders in sod houses and cowboys herding cattle beneath a vast sky. Often overlooked is the richness of the native prairie landscape itself. Written off as boring and featureless, the shortgrass prairie of eastern

Colorado is in fact a diverse community of wildlife and plants adapted to life in a land that receives only about 15 inches of moisture a year.

But the character of this land is much changed. Over the last 150 years, the prairie has been converted to agriculture to produce food for a growing human population. Livestock grazing, urban development, water diversion and plowing of grasslands have altered and fragmented the native prairie. As the landscape changed, so did the wildlife diversity once supported by the land.

### Land of Short Grasses

The driest of the North American prairies, the shortgrass lies within a rain shadow created by the Rocky Mountains. Clouds moving eastward across the mountains rise and cool, becoming less able to hold moisture, which is released as rain and snow. By the time the clouds reach the prairie, little moisture is left, creating the dry environment that fosters the shortgrass community. Adapted to a semi-arid climate, the "short grasses," like buffalo grass and blue grama, are often no more than 6 to 12 inches high. But they are highly nutritious even when dry, offering valuable forage for wildlife and cattle. While much of the shortgrass proved

unsuitable for agriculture—too far from water to irrigate and frequently too harsh even for dryland crops—the rich grasses could support cattle ranching. Using the land for grazing, rather than plowing it under for crops, has maintained perhaps 60 percent of the Eastern Plains as grassland, but its ecology has been changed.

Bison, which once roamed the Great Plains in the millions, "managed" grasslands through their grazing, trampling and wallowing. The land that bison herds once migrated across is now managed for cattle grazing, but cattle do not impact prairie ecology in the same way free-ranging bison did.

Significant reductions of black-tailed prairie dog populations have occurred since settlement of the West, as their habitat was converted into farmland and developed as cities and towns. In addition, prairie dogs are highly susceptible to sylvatic plague, a disease introduced in the early 1900s. Prairie dogs are controlled by many ranchers and farmers, in developed areas, because they compete with cattle for grass and their burrowing damages rangeland. Loss of prairie dogs affects a host of other wildlife species—predators such as ferruginous hawks that prey directly on the rodents and other species, like

Most of Colorado's Eastern Plains is private land, making wildlife conservation a challenge. An innovative Division of Wildlife program—the Colorado Species Conservation Partnership (CSCP)—works with landowners to promote conservation while keeping rangeland in production. "The issue becomes working with landowners in a constructive way," says Ken Morgan, CDOW Private Lands Habitat Specialist, "helping them to conserve the landscape."

Landowners apply for a wildlife easement on their land (from 20 years to perpetuity) in exchange for a one-time payment, usually a percentage of the land's fee-title value. The landowner agrees to maintain the land in its native condition. It can be grazed, not plowed, because cattle grazing mimics the effect bison once had on native grasslands. But not just any piece of land qualifies. Properties are evaluated for habitat quality, and a management plan is devised to maintain the native ecosystem.

"If someone is successful in getting awarded a CSCP

contract," explains Morgan, "their land is in good condition. That's the beauty of this approach. These are good landscapes and the landowners are good stewards of the land."

The program is not a giveaway, Morgan is quick to say. Landowners must contribute part of the easement fee, either in cash, land, or by donating years from their agreement. CSCP is a heritage program of the Great Outdoors Colorado (GOCO) Trust and funding comes from a variety of public and private sources.

In the first round of the program, Morgan received 34 applications requesting nearly \$32 million for the available \$7 million. He is currently working on two properties totaling 20,000 acres of shortgrass prairie, and hopes in three years to have roughly \$25 million "on the ground" in species conservation.

Keeping landowners, instead of public agencies, managing the land makes good sense. "They know how to keep it healthy," says Morgan. "They know the pulse of the land."

burrowing owls, that make use of prairie dog towns for nesting, shelter or other habitat needs.

Some species, including grizzly bears, wolves and black-footed ferrets, have been completely eliminated from the prairie—grizzlies and wolves were killed off through predator control efforts, and black-footed ferrets due to the reduction of prairie dog populations, their primary prey. Elk, mule deer and bighorn sheep, once common on the prairie or at its margins, are now mostly limited to the foothills and mountains. Ground-nesting birds such as prairie-chickens, plains sharp-tailed grouse and mountain plover have lost habitat as agriculture and ranching disrupted their grassland nesting grounds. Grassland songbirds, such as lark buntings, longspurs, horned larks and meadowlarks, lose habitat as grasslands are developed. Rapid suburban expansion along the Front Range has consumed hundreds of thousands of acres of prairie.

Thus, while the rolling grasslands of eastern Colorado appear unchanged, the decline of native wildlife signals clouds of change looming over the prairie.

### Seeing the Prairie with Different Eyes

Once seen strictly as a landscape to be turned to human use, the shortgrass prairie is being looked at in a new way. Concerns are growing that far-reaching changes may erase the long-term sustainability, diversity and integrity of the grassland ecosystem as a whole. But much of Colorado's Eastern Plains is private land. How can the sorts of government-landowner conflicts that have arisen in the past over wildlife conservation issues, in Colorado and other states, be avoided? In June 2002, Colorado Division of Wildlife Director Russell George appointed a working group to develop a plan for conservation of grassland species, including black-tailed

prairie dogs, mountain plovers, burrowing owls, ferruginous hawks and swift foxes. The draft plan focuses on high quality science, voluntary incentives for landowners and partnerships between private and public interests. Still in its beginning stages, the conservation plan offers the best opportunity to preserve prairie wildlife while respecting the interests and livelihoods of the people upon whose land the wildlife lives.

### A Home on the Prairie

What is the shortgrass prairie but a home for both people and wildlife? The creatures of the prairie define the landscape—for those who live upon it, and for those who only visit. For what would the prairie be without the hawk and the pronghorn, the comical ground owl, or even the sad-voiced coyote? The character of the Colorado prairie will live on as long as it always provides its wildlife a home.

# An Overlooked Landscape

by Mary Taylor Young



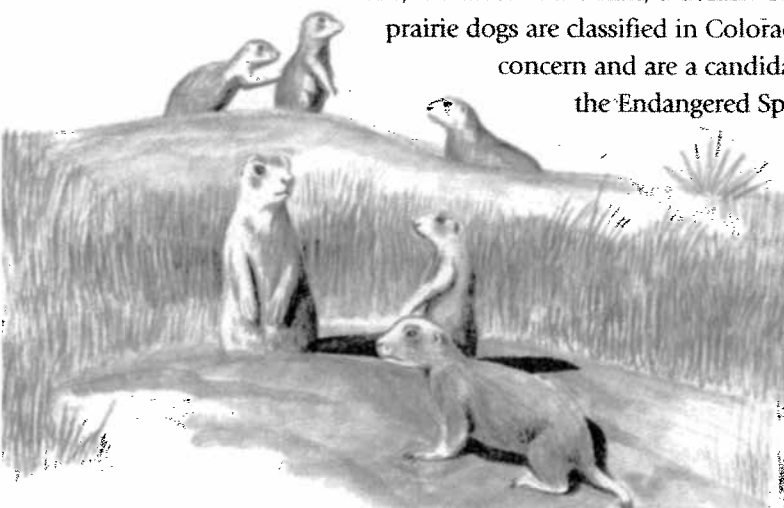
# Grasslanders That Have Us Worried . . .

**S**ince the first sodbusters, making a living on the prairie has often meant changing the natural landscape. But as humans altered the prairie to their needs, some of the native wildlife that depended upon a healthy prairie suffered.

Only in recent years has the decline of prairie wildlife garnered much attention. A few species, such as the black-footed ferret, have been the focus of significant recovery efforts. But a number of other shortgrass dwellers need attention.

## **Black-tailed Prairie Dog** *Cynomys ludovicianus*

Few creatures are as controversial as the black-tailed prairie dog. These burrowing ground squirrels form large colonies and graze heavily on forage grasses, often denuding grasslands, particularly during drought periods. Their impact on cattle rangeland has triggered decades of efforts by ranchers to eradicate them. Several factors have greatly impacted prairie dog populations: direct control efforts; suburban development; and sylvatic plague, a non-native disease for which these rodents have no resistance. Biologists estimate that black-tailed prairie dogs, which historically inhabited approximately 4.6 million acres in eastern Colorado, now occupy between 570,947 and 691,258 acres in the state, a decline of 85 to 88 percent. Black-tailed prairie dogs are classified in Colorado as a species of special concern and are a candidate for federal listing under the Endangered Species Act.



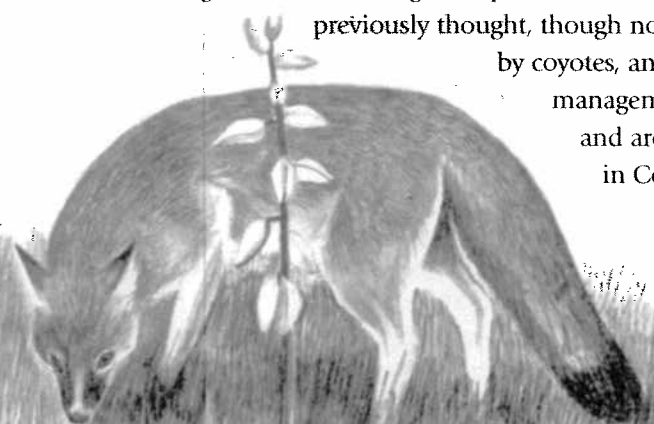
## **Burrowing Owl** *Athene cucularia*

The burrowing owl is a small, ground-dwelling owl that nests in abandoned prairie dog burrows. About the height and shape of a prairie dog, these round-headed owls can be spotted sitting atop burrows or fenceposts, often bobbing up and down. They inhabit the Colorado prairie from mid-spring through mid-fall. During winter, they migrate further south in the U.S. and to Mexico. A 1994 report suggested owl populations in six U.S. states (including Colorado) and Canadian provinces have dropped by more than 50% over the last 100 years. Burrowing owls have disappeared from much of their historic breeding range along the Front Range. They have disappeared completely from some areas but may be increasing in others. Burrowing owls have lost habitat due to the eradication of prairie dogs, the conversion of native



## **Swift Fox** *Vulpes velox*

A small, slender fox about the size of a domestic cat, the swift fox is a creature of shortgrass and midgrass prairies over most of the Great Plains. It can make use of diverse habitat but seems to be most numerous in flat to gently-rolling terrain. Swift foxes feed mainly on jackrabbits, prairie dogs and small rodents. The species declined greatly from the early 1800s through the mid 1900s due to conversion of grasslands, uncontrolled trapping and from ingesting poison baits set out to control coyotes. The swift fox historically existed throughout Colorado's Eastern Plains but by the late 1960s was reported as occurring "sparingly." Biologists believe its current range is approximately 40% of its historic range. Swift fox population density in certain areas on the Eastern Plains is thought to be high. The swift fox was a candidate for listing under the Endangered Species Act, but surveys found it was more numerous and widespread than previously thought, though not abundant. It also is flexible in its habitat needs. Predation by coyotes, and availability of den sites, are important factors in swift fox management. Swift foxes are still considered endangered in Canada and are listed as a species of special concern in Colorado.



## **Long-billed Curlew**

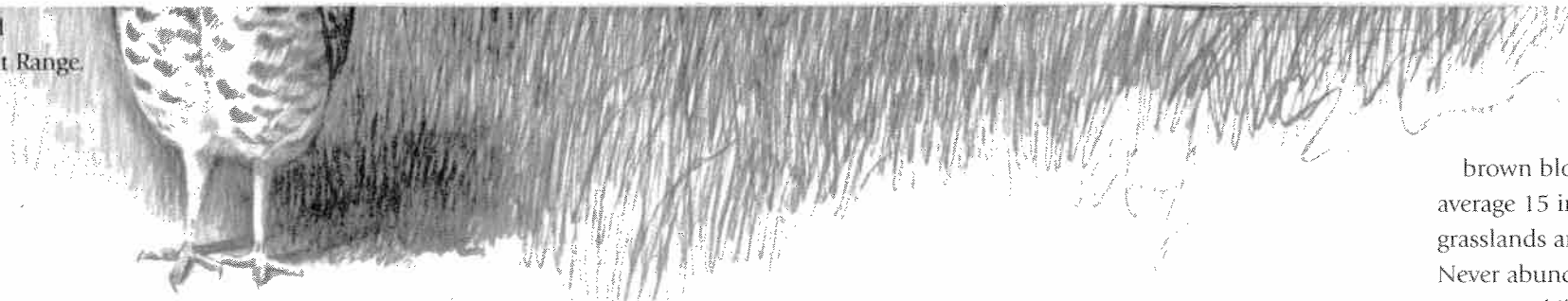
*Numenius americanus*

With its exceptionally long, down-curving

bill, this shorebird is unlikely to be confused with any other prairie inhabitant. Curlews nest on shortgrass prairie, and occasionally in wheat fields or fallow fields. Most nests are close to standing water, meaning many otherwise suitable nest sites may not be used by curlews. Long-billed curlew populations declined most during the nineteenth century when they were hunted for the commercial meat market. Conversion of grasslands to agriculture and livestock grazing reduced their nesting habitat. Between 1966 and 1996, curlew numbers declined 3 percent throughout an area defined as the Shortgrass Prairie Bird Conservation Region. Long-billed curlews were once widespread throughout Colorado's shortgrass prairie and are still fairly common in summer in Baca County. They also nest in Prowers County and on the Pawnee National Grassland in Weld County. Long-billed curlews are listed in Colorado as a species of special concern.

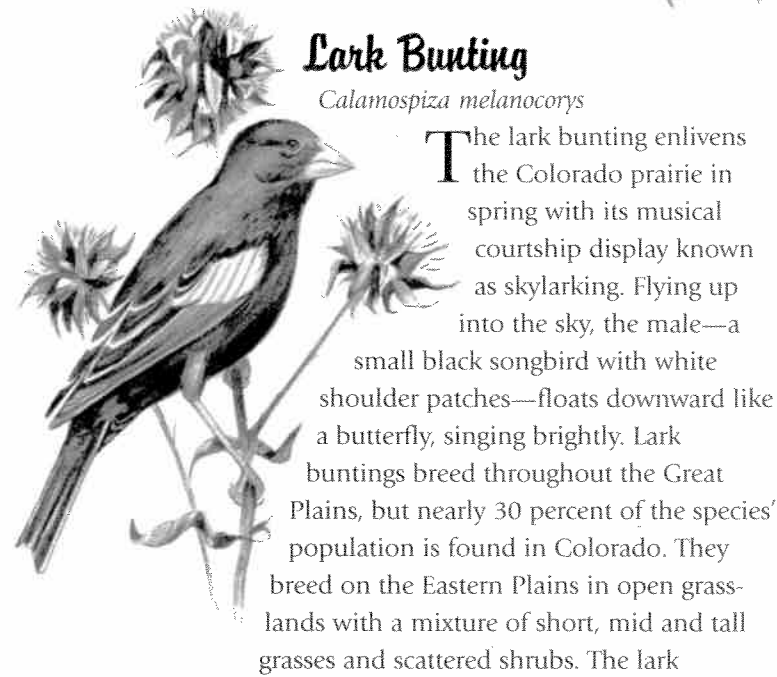


grassland to cropland and pasture; and suburban development along the Front Range. Burrowing owls are classified as a Colorado threatened species.



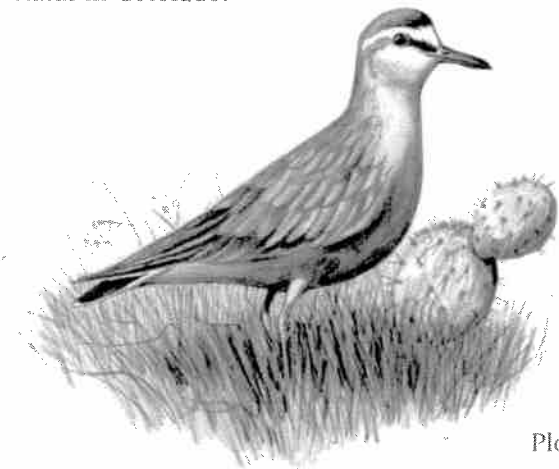
### Lark Bunting

*Calamospiza melanocorys*



The lark bunting enlivens the Colorado prairie in spring with its musical courtship display known as skylarking. Flying up into the sky, the male—a small black songbird with white shoulder patches—floats downward like a butterfly, singing brightly. Lark buntings breed throughout the Great Plains, but nearly 30 percent of the species' population is found in Colorado. They breed on the Eastern Plains in open grasslands with a mixture of short, mid and tall grasses and scattered shrubs. The lark

bunting's status as Colorado's state bird has not protected it from sharing the fate of many other prairie species. Surveys show lark bunting populations have been declining over the past 30 years, nearly two percent in Colorado between 1966 and 1996. Conversion of its grassland nesting habitat to cropland, application of pesticides to control grasshoppers (a primary food) and heavy grazing that removes grass cover needed for nest shading have all contributed to the species' decline. The lark bunting is protected by law as a migratory bird but presently has no special conservation status in Colorado.



### Mountain Plover

*Charadrius montanus*

Despite their name, mountain plovers do not breed in the mountains but on the shortgrass prairie. More than half of the world's population of mountain plovers nest in Colorado. Plovers require very short vegetation for nesting, often choosing land heavily grazed by prairie dogs or cattle, or fallow fields. Females lay their eggs on bare ground, gradually building up a nest around the hatched eggs with grass and fine roots.

Plovers were once common residents of the Eastern Plains and some mountain parks. By 1965, biologists were concerned that plovers were becoming rare, though recent inventories indicate they are more widely distributed than previously thought. Indicators of population trends show they may have declined in traditional breeding areas 38 to 70 percent over 31 years. But new, previously-unknown breeding populations have been discovered in recent years in South Park and in eastern Colorado. Cultivation of native grasslands, elimination of prairie dog colonies, predation by swift foxes and increasing recreation and oil and gas exploration on national grasslands have all contributed to the species' decline. Mountain plovers are listed as a species of special concern in Colorado.

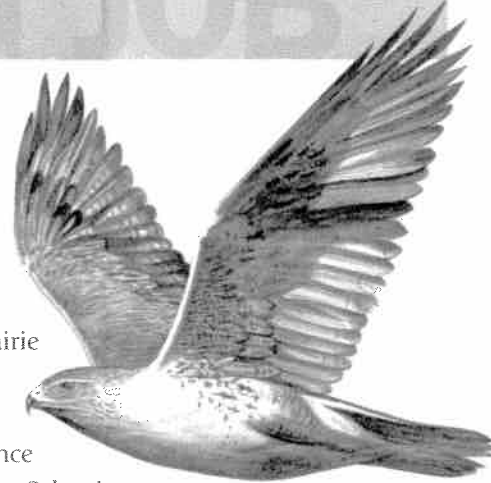
## Managing a Healthy Prairie

Colorado's prairie and its wildlife will never be restored to what they were before settlement. The Eastern Plains are now important food-production lands. Though huge amounts of native prairie habitat were converted to human use from the mid-1800s to mid-1900s, over the last 30 to 40 years the amount of shortgrass prairie has been fairly stable. The realistic goal is to manage, and keep healthy, this remaining habitat. But even that isn't easy. Managing for one species can negatively impact others. Mountain plovers, for example, require heavily-grazed, almost-bare ground for nesting. Plains sharp-tailed grouse need the opposite. Managing the prairie as a whole, and not for just one species, requires understanding and balancing the many factors of a complex landscape. And that is one big job.

### Ferruginous Hawk

*Buteo regalis*

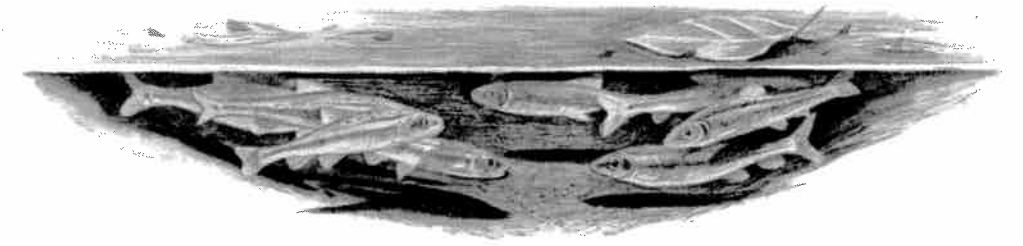
Of the several species of large, grassland hawks inhabiting Colorado, the ferruginous is most considered a "prairie dog specialist." They have been observed waiting on the ground at a prairie dog burrow, just below the rodent's line of vision, ready to grab a prairie dog if it emerges from the burrow. Though ferruginous hawks are not dependent on prairie dogs, the reduction of prairie dog populations in an area causes the abundance and distribution of ferruginous hawks to fluctuate greatly. Other impacts to ferruginous hawk populations include loss of grassland nesting habitat to cropland and urban development, and human disturbance at nest sites. Similar in size to the more common red-tailed hawk, ferruginous hawks are most abundant on the Eastern Plains in winter, where they concentrate around prairie dog towns. Ferruginous hawks are classified in Colorado as a species of special concern.



### Massasauga

*Sistrurus catenatus*

The massasauga is one of only two venomous snakes in Colorado; the other is the more common western rattlesnake. Both are pit vipers, with horny rattles on the end of the tail. The back of the massasauga has a pattern of brown blotches. It looks similar to the western rattlesnake, though much smaller. Fully-grown snakes average 15 inches in length, compared to 27 inches for western rattlesnakes. Massasaugas inhabit dry grasslands and sandhills in the central and southern Eastern Plains of Colorado, below about 5,500 feet. Never abundant in Colorado, massasaugas are fairly common in some locales. As with other reptiles, many are killed by vehicles when they sun themselves on roads. They are also subject to persecution as venomous rattlesnakes. The massasauga is classified in Colorado as a species of special concern.

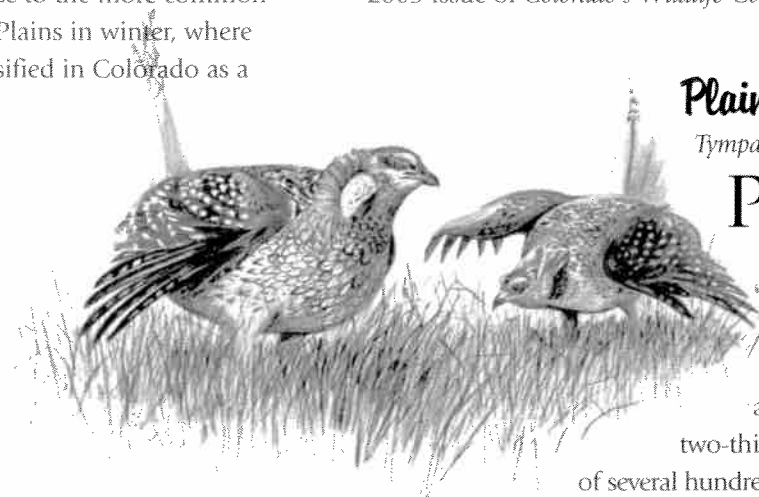


### Prairie Fishes

Fish inhabiting prairie streams have adapted to survive in often extreme conditions. In late summer, water flow in many streams dries up and fish survive in small pools. Arkansas darters and brassy minnows are able to survive at water temperatures as high as 93 degrees and with dissolved oxygen levels of less than 0.1 part per million. They also survive intense summer rainstorms that swell stream flows from less than 10 cubic feet per second to up to 60,000 cfs, scouring the streambed for miles. The persistence of these species is found in their remarkable ability to hold on in remnant habitat and re-colonize whole stream basins when flows return. But human use of surface and ground water in the Eastern Plains is turning perennial streams with stable habitats to intermittent streams, making the stress periods for fish populations more frequent, testing their ability to survive. Drought, cattle grazing along stream banks, development along waterways and chemical runoff have all made life even more precarious for these fish. Suckermouth minnow, plains minnow, Arkansas darter, southern and northern redbelly dace and common shiner are being propagated at the Native Aquatic Species Restoration Facility near Alamosa to ensure these species are not lost forever. For a more complete discussion of prairie fishes and recovery efforts, refer to the Fall 2003 issue of *Colorado's Wildlife Company* entitled "Chubs in the Tub."

### Plains Sharp-Tailed Grouse

*Tympanuchus phasianellus jamesii*



Plains sharp-tailed grouse are ground-dwelling birds related to prairie-chickens and sage grouse. As with other grouse species, sharptails gather on a traditional dancing ground, called a lek, during the spring breeding season. The males perform a courtship dance to attract females. Inflating purple air sacs on their necks, they erect their pointed tails and leap into the air. Plains sharp-tailed grouse once nested over much of the northern two-thirds of Colorado's Eastern Plains, but the present population consists of several hundred birds in northern Weld County. A few individual birds are occasionally spotted in Douglas County, but no males have been seen on Douglas County leks in recent years. This decline is due to the conversion of grasslands to housing and suburban development. Restoration of cropland to grassland—largely from lands enrolled in the Conservation Reserve Program and from habitat improvements made on the Pawnee National Grassland—has triggered the resurgence of the Weld County population. The plains sharp-tailed grouse is classified as a Colorado endangered species.



## Colorado Wildlife Viewing Guide PAWNEE BUTTES—Site Number 2

### To Visit The Prairie...

Much of Colorado's Eastern Plains is private land, so only a handful of prairie sites are accessible to the public. The Pawnee National Grassland offers access — by car, horseback or on foot — to a large area of shortgrass prairie.

**Description:** The Pawnee National Grassland is a remnant of the plains grassland that once covered eastern Colorado. Federal lands are intermingled with private ownership, and some blocks are grazed and cultivated. A USFS map of the grasslands, available at USFS offices in Colorado, is recommended to help distinguish between public and private lands. Dramatic high points are the Pawnee Buttes, a pair of sandstone formations towering 250 feet above the surrounding prairie. The grassland is divided into two parcels. The buttes are in the eastern parcel.

**Viewing information:** Such raptors as kestrels, prairie falcons, golden eagles, and Swainson's and ferruginous hawks nest on surrounding escarpments in isolated trees, and on the steep sides of the buttes. Do not climb on the buttes or escarpments during sensitive nesting periods from early spring through mid-summer. Watch for pronghorn, mule deer, coyotes, prairie dogs, jackrabbits, and kangaroo rats (at night). Grassland reptiles

include short-horned lizards, bullsnakes, fence lizards, and western rattlesnakes. Excellent mammal fossils dating from the Miocene and Oligocene periods have been found at the buttes. Fossils and cultural artifacts are protected by federal law.

**Ownership:** PVT, USFS (970-353-5004)

**Size:** 693,060 acres

**Closest town:** New Raymer, 20 miles, restaurant in town

The *Colorado Wildlife Viewing Guide* is available at many retail outlets or for \$12.95 plus \$2 shipping and handling from the Colorado Wildlife Heritage Foundation, 6060 Broadway, Denver, CO 80216. Call 303-291-7212 for information or online at [www.ColoradoWildlifeFoundation.org](http://www.ColoradoWildlifeFoundation.org).

Other prairie sites in the *Colorado Wildlife Viewing Guide*: **Simla Pronghorn Loop**—site 12; **Hugo State Wildlife Area**—site 13; **Apishapa State Wildlife Area**—site 22.



The Division of Wildlife's mission is to manage the state's wildlife for all the people of Colorado. The Watchable Wildlife program promotes wildlife viewing recreation by creating wildlife viewing sites, offering information through books, brochures and interpretive signs, sponsoring the Wildlife Watch learn-to-view workshops, and publishing this compendium to wildlife appreciation.

**Colorado's Wildlife Company and accompanying educator's guide are available online at [WWW.WILDLIFE.STATE.CO.US/COLO\\_WILD\\_CO/HOME/PG/CWCINDEX.HTM](http://WWW.WILDLIFE.STATE.CO.US/COLO_WILD_CO/HOME/PG/CWCINDEX.HTM)**

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