

# NEBRASKA'S

## *Threatened and Endangered Species*



*Mountain Plover*

NEBRASKA GAME AND PARKS COMMISSION

# Mountain Plover—A threatened species

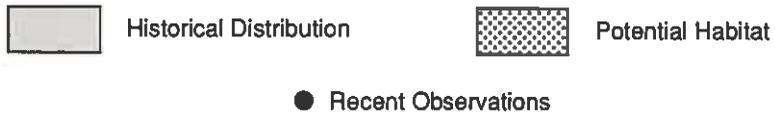
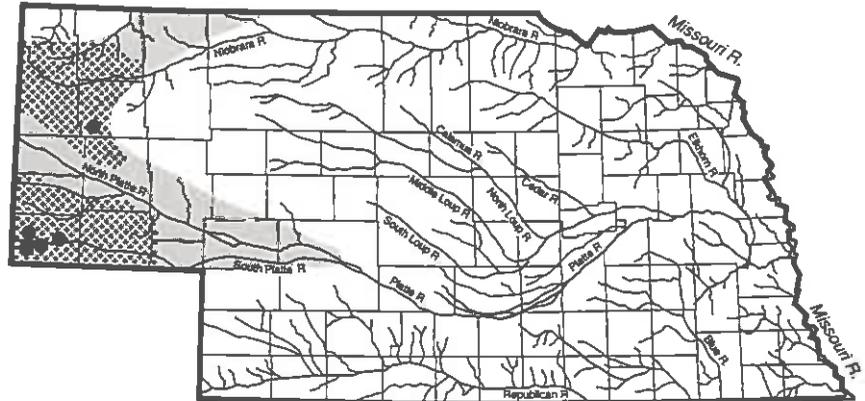
## Status

The mountain plover (*Charadrius montanus*) is a member of the group of birds called shorebirds that are usually found along the edges of water areas. It is an unusual shorebird since it spends its entire life avoiding water. The mountain plover is a Great Plains native that breeds on the arid shortgrass prairie from northern Montana to southern New Mexico and winters in California, Texas and Mexico. Since 1837, it has been reported from 23 states, Canada and Mexico. The number of mountain plovers has declined drastically in the last century. About 1900, it was abundant and was heavily market hunted in California and probably throughout its range. As early as 1914, plover numbers were reported to be declining. The Migratory Bird Treaty Act of 1916 protected the plover from hunting, but its range and numbers continued to decrease. Recent studies have estimated a 50 percent to 89 percent reduction in mountain plovers.

Current distribution maps are misleading, showing plovers occurring over a large range. In reality, habitat within this range is limited. Breeding strongholds are confined to small areas of native prairie in Montana and Colorado. Most of the birds winter in California, principally in the San Joaquin Valley, an area experiencing high rates of human population growth. Today the mountain plover is considered endangered in Canada, a species of special interest or concern in Montana and Oklahoma, extirpated in North Dakota and South Dakota, on the watch list in Kansas and threatened in Nebraska. The U.S. Fish and Wildlife Service is considering listing the mountain plover as endangered or threatened throughout its range.

The earliest records of the mountain plover in Nebraska are from territorial surveys conducted in the 1850s. A survey party collected an

Mountain plover distribution in Nebraska

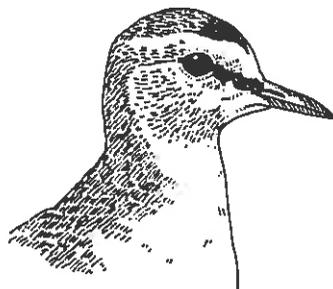


egg at the North Fork of the Platte River, 120 miles west of Fort Kearny. The species would never again be reported that far east in Nebraska. Until the early 1900s, mountain plovers were common summer residents in the Nebraska Panhandle, but since then there have been only scattered observations. Most recent sightings are of adults in Kimball and

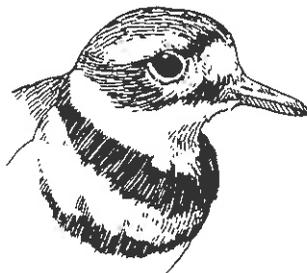
Box Butte counties, but there are two accounts of breeding, one of adults with young and one of an adult on a nest. The limited information available suggests the mountain plover occurs rarely and locally in the state. It was listed as threatened in Nebraska in 1976.

## Description

While in Nebraska the mountain plover can be seen in its breeding plumage. It looks much like a pale version of the more common killdeer, but without chest stripes. The head, back, wings and portions of the upper breast are a pale, sandy brown. The neck and underparts are white. The crown is capped with black, and a black stripe extends from the base of the beak to the eye. The dark bands contrast sharply with the brilliant white forehead and throat. The bill is black and the legs are fairly long and pale brown or brownish-yellow. In flight, the best field marks are a thin white wing stripe and black tail band fringed with a white border. Wintering plumage is pale and the dark head bands are absent. Males and females are similar in size and color.



Mountain Plover



Killdeer

## Habits

Little information describing mountain plover migration is available. Shorebirds are strong flyers and often cover several hundred miles a day. The mountain plover may cover distances of 800 to 1,000 miles on its migration between breeding and wintering areas. Fall flocking begins as early as July, with birds leaving the breeding grounds by August and arriving on the wintering grounds in early November. They depart from the wintering grounds in mid-March and arrive on breeding grounds a few days later.

When approached, a mountain plover is more likely to crouch or walk away than to fly. If disturbed, a bird may move a few steps then stop abruptly, standing silent and motionless. When forced to fly, it rises rapidly with quick wing beats flying low over the ground. Plovers can be difficult to see because of their cryptic coloration and behavior.

## Reproduction

Mountain plovers arrive on the breeding grounds in small flocks. Males commonly reoccupy their former territories, which they defend against intrusion by other males. Territorial males perform aerial displays to attract a mate, flying to a height of 15 to 30 feet, holding their wings up over the back in a deep V, then floating back to the ground in what is called the falling leaf display. A call



Mountain plovers typically lay three olive-and-black eggs in a shallow nest.

consisting of a series of “wee-wee-wee” sounds begins at the apex of the flight and continues until the bird reaches the ground. Both sexes perform the falling leaf display, but females perform it only after mating. Females frequently return to the same area each year, but visit the territories of several males before selecting a mate. During courtship, several nest scrapes are made before one is eventually chosen for a nest.

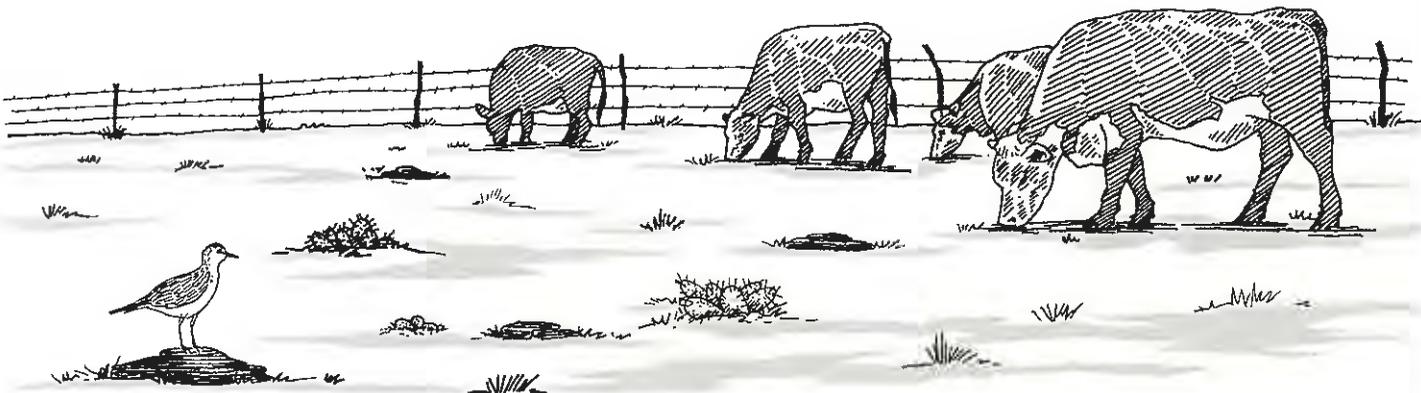
The nest consists of a shallow depression in the ground lined with a small amount of materials found nearby. Nests are often next to conspicuous objects such as cow chips.

Mountain plovers usually lay three well-camouflaged eggs that are dark olive with black markings. Only one adult attends the nest, rotating the eggs and shading them on hot days during the 29-day incuba-

tion. Some evidence suggests that a female produces one clutch of eggs for her mate to attend and then produces a second clutch about two weeks later which she attends.

Chicks do not have the same markings as adults. They are whitish below and pale brown above with numerous black spots on the upper head, back and wings. The brown-speckled chicks reach adult size 35 days after hatching. They are still unable to fly, and retain their immature coloration until spring of the following year.

Chicks can run and capture their own food soon after hatching. Two to five days after the eggs hatch, adults may move the brood as far as half a mile to a mile and a half, then remain in that area until the chicks are fledged. One of the biggest problems for chicks is exposure to the prairie’s hot afternoon sun.



Shade is scarce on the prairie, and chicks seek shade under tall vegetation or in the shadows cast by livestock watering tanks, fence posts, telephone poles and adult plovers.

Many eggs and chicks do not survive. Eggs are lost primarily to predation and hail damage, while chick mortality is primarily the result of predation. Predators include prairie falcons, ferruginous hawks, golden eagles, loggerhead shrikes, swift foxes and ground squirrels.

## Food

Mountain plovers feed primarily on insects, especially spiders, beetles, grasshoppers, crickets and ants. The type of prey consumed changes throughout the season with beetles most common from late spring to midsummer and grasshoppers and ants eaten in greater quantities in late summer. Like many species that inhabit arid environments, the mountain plover can thrive without drinking free-standing water; sufficient water is obtained from its food.

## Habitat

The mountain plover is generally considered an inhabitant of the arid shortgrass prairie, which is dominated by blue grama and buffalo grass with scattered clumps of cacti and forbs. More recently it has been considered a disturbed-prairie or a semi-desert species. Mountain plovers are very selective in choosing nest sites, preferring expansive, arid flats with very short grass and a high proportion of bare ground. In parts of its breeding range the mountain plover selectively nests in prairie dog towns. Prairie dogs create unique patches of habitat ideal for mountain plovers. In shortgrass prairie, prairie dog grazing promotes the short grasses like buffalo grass and grama grasses, and their digging creates areas of bare soil important for plover nesting. Prairie dog towns also attract many species of insects.

Mountain plovers will forage on slopes and ridges. Adults with young have been observed in tall vegetation and around livestock watering facilities, which probably provide an abundance of insects. Adults also use plowed fields.

The wintering habitat of the mountain plover is similar to that used in the summer. Flocks can be found on coastal prairies, alkaline flats, plowed fields and cropland.

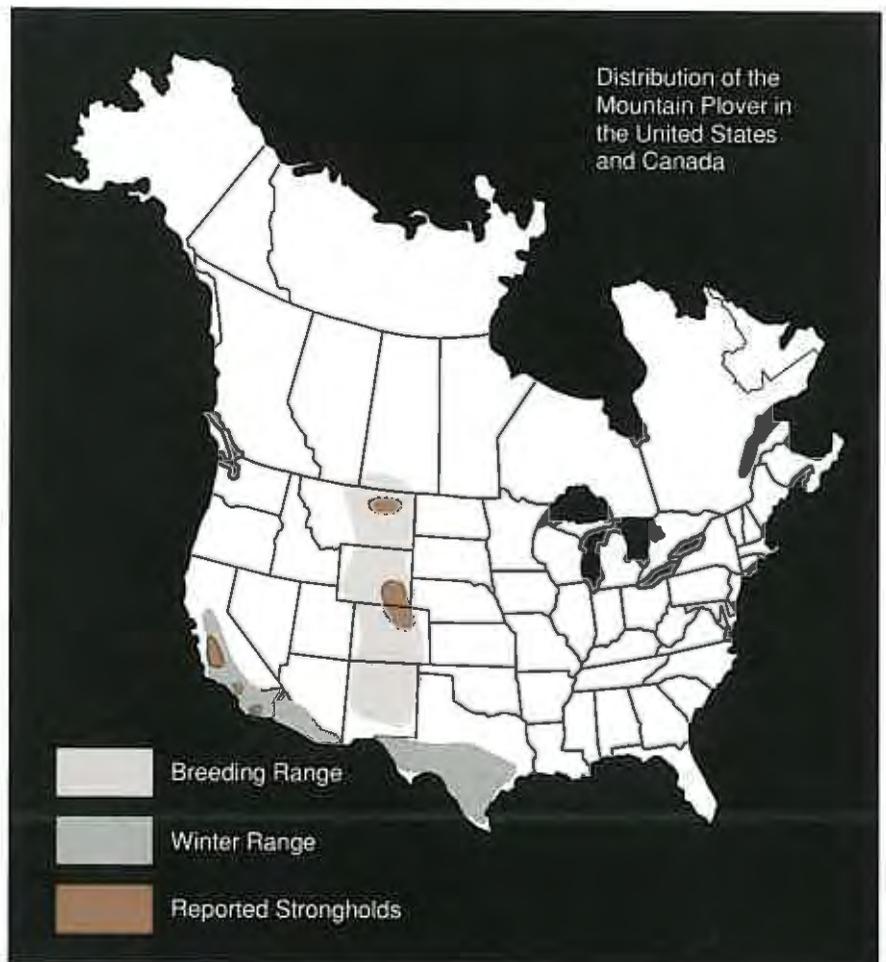
## Limiting Factors

Human activities have had the greatest effect on the distribution and number of mountain plovers. Declining numbers were attributed to market hunting, but even after hunting was abolished, mountain plover numbers continued to fall. This sustained population decline is

the result of habitat loss and the effects of environmental contaminants.

As with many grassland species, the conversion of prairie to agricultural land has proved disastrous to the mountain plover. Advances in irrigation have resulted in additional plowing of shortgrass prairie previously unsuitable for agriculture. Plowed prairies that have been allowed to revert to grassland or have been converted to CRP ground are usually revegetated with taller vegetation unsuitable for mountain plovers.

Improved range management practices on existing grasslands also have affected the mountain plover. Most pastures are managed to promote the growth of taller grasses through techniques such as rotational grazing, temporary cutbacks in grazing and improving soil moisture. Ironically, those range improve-





An adult mountain plover attends the nest during the 29-day incubation period.

ment practices create areas avoided by the mountain plover, a “disturbance-evolved” species.

In many areas mountain plovers are closely associated with prairie dog towns. The decline of mountain plovers in Montana, and possibly other states, may be associated with the decline of prairie dogs. Prairie dog populations are controlled in Nebraska. By discontinuing the extermination of prairie dogs, additional areas may become suitable for mountain plovers.

Mountain plovers may be vulnerable to human and vehicular disturbance during courtship, egg laying and early chick development. Industrial use of an area frequented by mountain plovers would increase the possibilities for disturbance. Disturbance of mountain plovers by the oil and gas industries is being investigated in other parts of its range.

Information is not yet available on the effects of pesticides on the mountain plover, but studies have shown that several common grassland bird species are adversely affected by certain pesticides. The pesticides may be acutely toxic to the mountain plover, depending on concentrations used, or they may affect the plover by reducing food supplies.

## Management and Outlook

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The Migratory Bird Treaty Act protects the mountain plover from unauthorized destruction of birds, nests and eggs. Nebraska law provides additional protection by requiring state agencies to ensure that their actions, or actions authorized or funded by them, do not jeopardize the mountain plover. However, those laws are not sufficient to guarantee a place for the mountain plover in Nebraska.

The recovery of the mountain plover will require that biologists conduct field surveys to monitor its status more accurately, to identify nesting areas, to implement the measures necessary to maintain nesting areas and to enhance suitable remaining habitat. Much of the arid shortgrass prairie in the Panhandle is marginal land for agricultural production and is used for livestock grazing. Those areas can continue to be excellent for cattle production, and, with proper management, can also provide the disturbed-prairie habitat preferred by the mountain plover.

This can be accomplished

through voluntary landowner agreements or conservation easements to prevent the conversion of prairie to cropland and to prescribe appropriate range management.

Management options may include one or a combination of techniques compatible with the mountain plover, including grazing and controlled burning. Additionally, pesticide use should be evaluated carefully and limited to compounds that are not harmful to grassland birds. However, all of these management techniques ignore the one option that could have the most significant effect on mountain plover numbers — the re-evaluation of prairie dog control.

Mountain plovers are a disturbed-habitat species, and prairie dogs create habitat that is attractive not only to mountain plovers but to many other wildlife species. Unfortunately, prairie dogs are considered incompatible with livestock production because they feed on many of the same plants as cattle. There is evidence that prairie dogs and livestock can coexist. Prairie dogs can increase the nutritional level of vegetation by promoting new growth, and they might remove plants that are toxic to cattle.

We need to reconsider the value of prairie dogs not only to the mountain plover, but to the many species associated with prairie dog towns. If we cannot live with prairie dogs, then we should be prepared to mitigate the loss of prairie dog towns with range management practices that will provide the open, shortgrass prairie habitat preferred by the mountain plover.

The future of the mountain plover in Nebraska is uncertain, and the recovery of a species is never a simple task. We must all decide if we are willing to give something back to the land that has given us so much. If the answer is yes, the mountain plover might continue to perform its aerial mating displays over Nebraska prairies.



Mountain plover habitat is arid shortgrass prairie dominated by blue gramma and buffalo grass.



Speckled mountain plover chicks and eggs are well camouflaged.

### Suggested Reading

Bent, A.C. 1929. *Life Histories of North American Shorebirds*. U.S. National Museum Bulletin 146 part 2: 263-269.

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**Note:** New data on the occurrence and distribution of this species are being collected constantly, and some of the information in this publication may be outdated. It should be used for a general understanding of the status of this species in Nebraska and not as the sole source of locational information for any report, project, regional/local planning or environmental impact assessment. For current information on this or other threatened and endangered species, or for additional copies of this publication, contact the Wildlife Division, Nebraska Game and Parks Commission, P.O. Box 30370, Lincoln, NE 68503.



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