

# NEBRASKA'S

## *Threatened and Endangered Species*



### *Whooping Crane*

NEBRASKA GAME AND PARKS COMMISSION

# Whooping Crane — An endangered species

## Status

The whooping crane (*Grus americana*) is perhaps the best known endangered species in North America. It is also a symbol of international efforts to protect and restore endangered wildlife. The annual travels of this endangered species are newsworthy, and its story dramatic.

In the mid-1800s, the principal breeding range extended from central Illinois northwestward through northern Iowa, western Minnesota, northeastern North Dakota, southern Manitoba and Saskatchewan, into central Alberta. A non-migratory breeding population occurred along the coast of Louisiana until the mid-1940s. The whooping crane disappeared from the heart of its breeding range in the

north-central United States by the 1890s. Historically, the whooping crane wintered along the coast of the Gulf of Mexico from Florida to Central Mexico. There were two important migration routes, one between Louisiana and Manitoba and the other from Texas and the Rio Grande Delta region to the Canadian provinces.

Although widely distributed, the whooping crane was never common. The total population in the mid-1800s may have been 1,300 to 1,400 according to one estimate.

The species declined dramatically as human settlement and development spread westward. By 1942, only 16 birds remained in the migratory population. The remnant Louisiana non-migratory population was reduced from 13 to six birds following a hurricane in 1940, and the

last individual was taken into captivity in 1950.

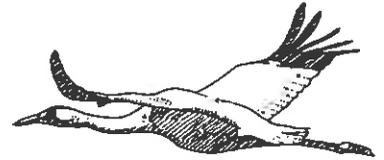
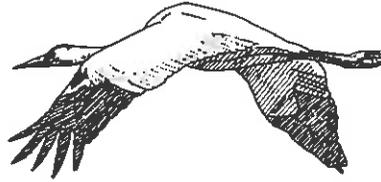
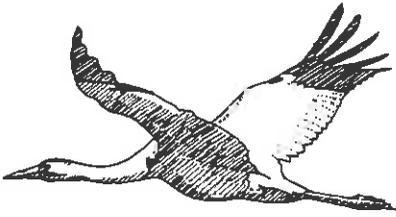
As a result of an enormous conservation effort since 1940, the whooping crane population has slowly increased. Although numbers have fluctuated from year to year, by March 1990, the Aransas/Wood Buffalo population had climbed to 146. In March 1993, this population numbered 136. In 1993, 45 pairs nested, an all-time high. In 1985, an experimental flock of 33 migrated from Idaho to New Mexico. Only eight individuals remained in this flock in 1993, and there has been no reproduction. In late 1993, a third wild flock in Florida consisted of 10 captive-reared birds remaining from experimental releases. In May 1993, 112 whooping cranes were held in captivity.

The current breeding distribution of wild whooping cranes is restricted to a small area in the northern part of Wood Buffalo National Park near Fort Smith, Northwest Territories. The population is migratory and winters in and around the Aransas National Wildlife Refuge on the gulf coast of Texas.

## Description

The whooping crane is the tallest North American bird. The males approach five feet when standing erect and average 16 pounds. Females average 14 pounds. The whooping crane is snowy white with black wingtips (visible only when the wings are extended) and has a wingspan that may reach eight feet. The neck is long, the bill is long, dark and pointed, and the legs are long, thin and black. There is a patch of reddish-black bristly feathers on the top and back of the head. Black feathers on the side of the head below the yellow eye look like a long, dark moustache. The whooping crane is the only large white bird with black wingtips that flies with its neck straight out in front, the legs trailing far behind. It also is the only





one that walks or stands on long thin legs and does not swim.

Plumage of the juvenile whooping crane is a rusty or cinnamon brown color. At about four months of age, white feathers begin to appear on the neck and back. Young in their first fall migration usually have a brown head and neck and a mixture of brown and white on the body. The plumage is predominantly white by the following spring.

## Habits

Whooping cranes arrive at the nesting area in Wood Buffalo National Park or its vicinity in late April. Experienced breeding pairs arrive first to initiate nesting as there is just enough time in the short northern summer for the young to learn to fly before freeze-up. Autumn migration usually begins in mid-September.

Birds arrive on the wintering grounds located on Aransas National Wildlife Refuge or in its vicinity between late October and mid-November. Occasionally, stragglers may not arrive until late December. Non-breeders and unsuccessful breeders usually initiate and complete the fall migration sooner than family groups.

As spring approaches, dancing, calling and flying increase in frequency, indicative of pre-migratory restlessness. Family groups and pairs are usually among the first to depart the wintering grounds. First departure dates usually are between March 25 and April 15, with the last birds usually leaving by May 1.

Occasionally, one to four birds have remained at the Aransas NWR throughout the summer. Some of those birds were ill or crippled or mates of crippled birds. Parents and the young of the previous year separate upon departure from Aransas NWR, while enroute to the breed-

ing grounds or soon after arrival on the breeding grounds.

The 2,400-mile migration route generally cuts across northeastern Alberta and southwestern Saskatchewan, through northeastern Montana, the western half of North Dakota, central South Dakota, Nebraska and Oklahoma and east-central Texas. The primary migration route through Nebraska is a narrow swath approximately 140 miles wide. Migration may take two to six weeks. Whooping cranes migrate in the daytime and make regular stops for the night to feed and rest. Some stopovers last only one night, others up to four weeks. Whooping cranes migrate as individuals, pairs, family groups or small flocks of up to 11 birds.

Whooping cranes may live up to 24 years in the wild. Captive birds can live 35 to 40 years. A 29-year-old captive male was still reproductively active in 1993.

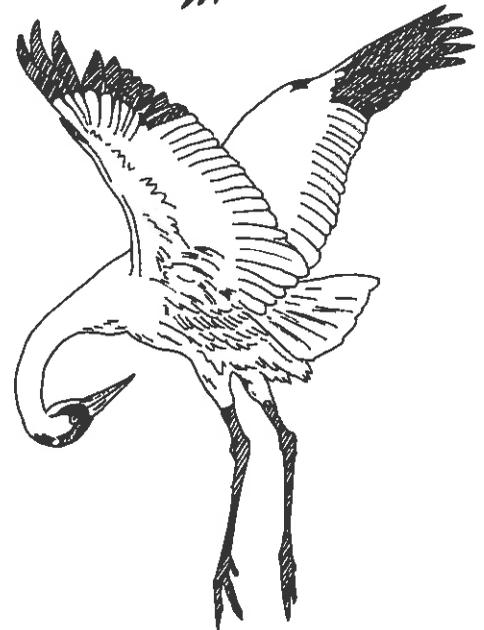
## Reproduction

Whooping cranes mate for life but will accept a new mate if one of the pair dies. Birds reach sexual maturity in three to five years. Courtship displays, involving dancing, begin in early spring on the wintering grounds. On the nesting ground, adults carry out an elaborate courtship display, bobbing, weaving, jumping and calling with their mates.

Breeding pairs show considerable fidelity to their breeding territories, returning to the same nesting area each year. Individual nests are often used for three or four years. Whooping cranes may renest if their first clutch is destroyed or lost before mid-incubation. Although they usually nest annually, breeding pairs will occasionally skip a nesting season, particularly when nesting habitat

conditions are unsuitable.

Nests are large mounds of dried bulrushes about four feet wide with the flat-topped central mound up to five inches above the water. Usually two eggs are laid, occasionally one or three. Eggs are light brown or olive-buff overlaid with dark, purplish-brown blotches. Each egg is about four inches long, about two-and-a-half inches wide and weighs



about seven ounces.

Both adults are involved in incubating the eggs for 29 to 31 days. The eggs hatch in late May or early June. The eggs in each nest hatch at different times, and the second egg or chick often is pushed out of the nest or starves to death. Young birds are able to fly 80 to 90 days after they hatch.

## Habitat

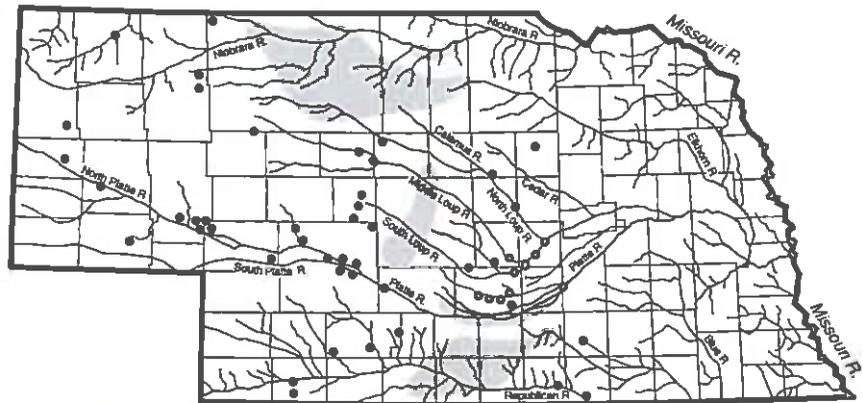
The current nesting area in Wood Buffalo National Park lies near the headwaters of the Little Buffalo, Klewi, Sass and Nyarling rivers. The area is interspersed with potholes and is poorly drained. Wetlands vary considerably in size, shape and depth, and most have soft marl bottoms.

Approximately 22,500 acres of salt flats and marshes on Aransas NWR and adjacent areas comprise the principal wintering grounds. Interior portions of the refuge that are periodically used by foraging whooping cranes are gently rolling and sandy grasslands with swales and ponds.

Although a variety of habitats are used during migration, a wetland is always used for night roosting and frequently for foraging. While migrating, whooping cranes roost standing in the shallow water of marshes, flooded crop fields, artificial ponds, reservoirs and rivers. Wetlands surrounded by tall trees or other visual obstructions, or marked with dense vegetation are not used. The birds select sites with wide, open panoramas. Sites must also be isolated from human disturbances. The preference for isolation and the birds' rarity result in relatively few confirmed sightings during migration each year.

Although the whooping crane is considered an omnivorous feeder — it eats animal and plant foods — it subsists primarily on an aquatic animal diet. In summer they eat snails, minnows, frogs, larval insects and leeches. If given the opportunity,

## Migration Stopover Distribution in Nebraska



- Areas most frequently used by migrating whooping cranes
- Other sites of occurrence

they may also take small rodents such as voles, lemmings or shrews. During migration cranes eat aquatic animals, plant tubers, roots and waste grain in crop fields. Wintering whooping cranes eat crabs, clams, crayfish and small fish in the tidal marshes and sandflats and acorns and wild fruits in the uplands.

## Limiting Factors

Reasons for the initial decline in the whooping crane population include habitat loss from draining and clearing wetlands and human disturbance in breeding areas and along the migration routes. Conversion of wetlands and prairie to hay and grain production made much of the original habitat unsuitable for whooping cranes. Mere human presence interfered with the continued use of prairies and wetlands by breeding and migrating whooping cranes. Birds were once shot for their feathers and as meat for the table.

Most deaths, other than those of chicks, occur during migration and in the summer. Deaths from April through November are three times greater than deaths on the wintering

grounds. Whooping cranes are exposed to a variety of hazards such as collision with obstructions, predators, disease and illegal shooting. Snow and hail storms, low temperatures and drought can present navigational handicaps or reduce food availability. Collision with powerlines is the No. 1 known cause of death for whooping cranes, accounting for the death or serious injury of at least 19 whooping cranes since 1956. The frequent stopovers necessary during migration become increasingly perilous as more land is developed for agriculture, industry or habitation, and fewer suitable resting sites remain.

The only self-sustaining wild population of whooping cranes is vulnerable to destruction through a chemical contaminant spill on the wintering grounds. Barge traffic on the Gulf International Waterway, primarily transporting petrochemical products, is among the heaviest on any waterway in the world. Hurricanes could place the birds at risk from high winds. Drought decreases the availability and abundance of the natural food supply.

Several natural factors limit whooping cranes numbers. Although



The whooping crane, the tallest North American bird, is snowy white with black wingtips (visible only when wings are extended). It stands on long, thin black legs.

they have a long life span, sexual maturity is delayed for at least three years. A pair produces only two eggs and raises but one chick. The low number of breeding pairs further limits the number of young that can be produced. Since the current northern breeding ground has an ice-free season of only four months, there is rarely time for a second clutch of eggs if the first clutch fails. Under those conditions, even a healthy population will grow very slowly.

## Management and Outlook

The whooping crane is protected internationally in Canada, the United States and Mexico under the Migratory Bird Treaty Act. The species is classified and protected as endangered in Canada and the United States.

Wintering habitat in the Aransas NWR and the last breeding area in the Wood Buffalo National Park is managed to protect the whooping crane. Canada and the United States work closely on all management actions affecting the winter or summer habitat of the whooping crane.

Since 1954, when the whooping

crane breeding area was first located, there have been annual surveys to determine the number and location of breeding pairs and non-breeding birds. Surveys of wintering birds also are conducted annually in and around Aransas NWR. Surveys on the wintering grounds monitor the birds' arrival at the refuge in fall and departure in spring. The number of birds in the population also is determined. Public sightings along the migration route provide state and federal wildlife agencies the opportunity to locate and protect habitat and to limit human disturbance that might be harmful.

In 1967, efforts were initiated to develop a captive flock of whooping cranes. A captive flock saves the species from extinction should it be extirpated from the wild and can be used to bolster the wild population through captive propagation and release of captive-produced stock. There are now two breeding populations of whooping cranes in captivity, one at the Patuxent Wildlife Research Center in Maryland and one at the International Crane Foundation in Wisconsin. Construction of a third facility is underway at the Calgary Zoo in Alberta.

Since the whooping cranes use

only one breeding area and one wintering area, there is a high potential for the loss of this species in the wild. The goal of the U.S. Whooping Crane Recovery Plan is to establish two wild populations of at least 25 breeding pairs in addition to the existing population so that the species can be downlisted from endangered to threatened status.

Efforts to establish an additional wild population began in 1975 when whooping crane eggs from Wood Buffalo National Park were placed in the nests of sandhill cranes at Grays Lake National Wildlife Refuge in Idaho. After hatching, the chicks were adopted and raised by the foster parents. The young whoopers then migrated with their adoptive parents and wintered in New Mexico. Initial results were promising, but the whoopers failed to form pair bonds, and breeding never occurred.

The next attempt to establish an additional population was made in January 1993, when the first group of 14 whooping cranes hatched in captivity was released in Kissimmee Prairie, Florida. The objective is to establish a non-migratory, self-sustaining population there. Studies also are underway to determine the feasibility of establishing other migratory populations in Wisconsin and Canada.

The outlook for the survival of the whooping crane is considerably brighter than it was in 1950. The population has slowly increased, but complete protection and intensive management will have to continue if desirable population levels of whooping cranes are to be attained and maintained. Preventing further human encroachment that would threaten nesting and wintering habitat is vital. Protection of suitable migratory stop-over habitat and reducing mortality, particularly along the migration route, are critical. Positive public support remains an essential ingredient in the efforts to restore the whooping crane.



Although a variety of habitats are used during migration, wetlands like the rainwater basins of south-central Nebraska are used frequently for night-roosting and foraging.



Whoopers roost in shallow water of rivers like the Platte or sites isolated from human disturbance and free of (all) vegetation, trees or other visual obstructions.

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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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