

Cranes at Willcox Playa

Sandhill cranes didn't start coming to the Willcox Playa for winters until the mid-1960s. Apparently, the shallow water in several areas of this 50-square-mile "dry lake" and the grain missed by harvesters in nearby fields were just what these tall birds were looking for. Their winter population here zoomed from about 800 in 1970 to 8,000 last year. Some come from summer nests as far off as Siberia.

This season, the sandhill cranes found one surprise and brought another.

An outbreak of naturally occurring botulism poisoning at the playa killed at least 129 of them, along with 149 or more other waterfowl, in October and November. The die-off was minor compared to other outbreaks of this poisoning. For example, close to 100,000 birds died of it in the Great Salt Lake marshes of Utah this year. But the botulism-causing bacteria in the soil of the playa could continue to cause trouble in the future, say wildlife biologists.

The second surprise came in December: a whooping crane showed up with the sandhill cranes. Its sighting was the first verified record ever of a whooper in Arizona.

Only 94 whooping cranes are alive in the wild anywhere. This one and 17 others were put, as eggs, into sandhill crane nests at Grays Lake, Idaho as part of the effort to save whoopers from extinction. Most of the foster whooping cranes winter with sandhills along the Rio Grande in central New Mexico.

Whooping cranes are still an endangered species, but their rebound from the brink of extinction has made them a symbol of work to save

By Guy Webster
Agricultural Communications

Photograph: Arizona's first whooping crane shows off white wings amid a flock of gray sandhill cranes.

endangered wildlife. Only 14 were alive in 1938, and their wild population was less than 30 from 1951 to 1957. Adult whoopers are the tallest birds in North America, standing four to five feet tall with a wingspan more than seven and a half feet. They are white except for bare red skin on the face and black feathers on the wingtips. Sandhill cranes are gray and slightly smaller.

For three years, University of Arizona research assistant Dwight Perkins has been studying the sandhill cranes that live on the Willcox Playa from mid-autumn to early spring. He is preparing a management plan for the cranes for the Arizona Game and Fish Department.

"I had no special interest in cranes prior to the project, but it didn't take me long to fall in love with them," says Perkins. He works with Dr. Lyle Sows of the Arizona Cooperative Wildlife Research Unit and Dave Brown of the Game and Fish Department.

The Playa

The Willcox Playa is a flat, alkaline basin five to 15 miles south of Willcox in southeast Arizona (see map). Almost all of it belongs to the U.S. Army, which used it as a bombing range until after World War II. Most of the playa is dry most of the time. Since 1972, the Game and Fish Department has maintained several ponds in the State's Mexican Duck Nesting Area on the eastern part of the playa. Occasional releases of tailwater from the Arizona Electric Cooperative's power plant at Cochise also supplement the playa's natural water supply.

The Willcox Playa is winter habitat for many species of ducks and shorebirds, as well as cranes. Besides open water, the area offers the



This sandhill crane died in the October botulism outbreak that killed 129 of its kind at the Willcox Playa in 1980.

birds nearby fields of grain. Agricultural acreage in the vicinity has grown rapidly in the past three decades. Since 1970, corn has replaced grain sorghum as the major local crop.

The sandhill cranes use open water up to 10 inches deep for roosting areas and for mid-day loafing areas. They loaf between morning and afternoon feeding periods. Perkins has found that more than nine-tenths of the cranes' diet is corn.

The outbreak of type-C botulism among the birds this year was not related to their grain diet. The poison-producing bacteria grow in oxygen-depleted mud or decaying organic matter, not in standing water or dry soil. Veterinarian Robert Lange investigated the outbreak for the U.S. Fish and Wildlife Service's National Wildlife Health Laboratory in Madison, Wisconsin. He named unseasonably warm temperatures and late summer rains before the arrival of the waterfowl as factors contributing to the growth of the bacteria. In addition, he believes that release of about 30,000 acre feet of water from the power plant's fly-ash settling pond near Cochise may have improved conditions for bacterial growth without being the direct cause of the problem. Reactions to the poisonings may have prevented the outbreak from killing more birds than it did. As soon as the problem was identified, the birds were shooed off the affected area and the area was drained to dry it out.

Botulism epidemics among waterfowl are common. This year's, however, was the first on record at the Willcox Playa and one of the first anywhere to kill cranes. The bacteria that caused it can survive in inactive form in dry soil. If spring brings warm, wet conditions before the birds fly north, more botulism deaths could result, says Perkins.

The danger will linger into future seasons, too. Lange recommended that releases of tailwater from the power plant be scheduled to avoid keeping soil damp during the autumn period when a botulism outbreak is most likely. However, the playa's flatness prevents the elimination of muddy areas that foster botulism bacteria.

Whooping Crane

This year, Arizona's first whooping crane arrived at the Willcox Playa after the botulism problem was over. The first reported sighting by a duck hunter December 21 was followed by verified sightings by Perkins and Game and Fish Department personnel December 26 and 30.

Each of the whooping cranes in the fostering program with sandhill cranes has an individually color-coded legband. From that code, Perkins found out from Dr. Rod Drewien, leader of the fostering project, that the whooping crane in Arizona was a yearling that spent last winter at Las Lunas, New Mexico and last summer at Kilgore, Idaho.

The foster whoopers grew up with a subspecies of sandhills called the greater sandhill crane. Groups of the lesser sandhill and Canadian sandhill subspecies also winter at the Willcox Playa.

Greater sandhills in the West grow to nearly seven feet in wingspan. Most of them build summer nests in the northern Rocky Mountain states and winter in New Mexico or Mexico. A smaller population nests in Nevada and winters primarily along the Colorado River from Parker to the Cibola Wildlife Refuge. Another nests in Oregon and winters in the central valley of California.



Dwight Perkins prepares to take a blood sample from a sick crane.

The lesser sandhill crane, with wingspan just over five feet, summers from northwest Canada to Siberia. More than half the cranes using Willcox Playa are this type, says Perkins. Cranes often travel 150 miles per day when they migrate, climbing on thermal updrafts, then gliding for miles.

All wild whooping cranes except those in the cross-fostering project with sandhills are in a single population that migrates between northern Alberta, Canada and coastal Texas. The reason for the cross-fostering project is similar to the apt maxim, "Don't put all your eggs in one basket." Establishing a migrating population separate from the main whooper population cuts the chance of a single disaster of weather or disease wiping out the entire species.

Similarly, the increasing use of the Willcox Playa by sandhill cranes can be important for that species. "From a biological standpoint, it is beneficial to promote dispersal of wintering cranes throughout the Southwest," says Perkins. "By promoting isolated groups of wintering cranes, we can minimize the possibility of catastrophic losses to the total population. Willcox Playa helps improve the distribution of wintering cranes by siphoning off a small proportion of the very large concentrations in New Mexico."

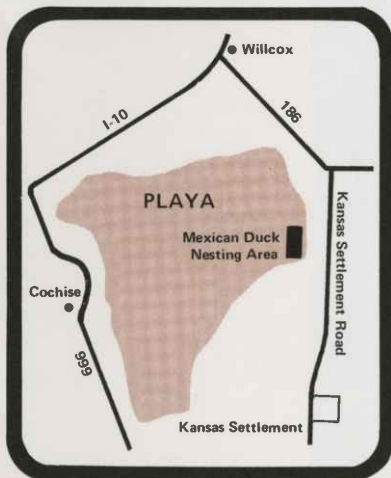
In preparing a management plan for the cranes, Perkins is considering some of the problems involved in encouraging their use of the playa. The State Game and Fish Department refuge covers only a few hundred acres of the approximately 200 square miles used by the cranes.

"The establishment of a large refuge would naturally be a job for the U.S. Fish and Wildlife Service since most of the wildlife that use the area are migratory birds, all of which are under federal jurisdiction," he says. But whether or not the playa will even be considered for a future federal refuge is still in question.

The cranes' grain diet raises some issues for the birds' future. They arrive after most corn has been harvested and do not like fields where stalks are still standing, so most of the cranes' diet is grain that has fallen to the ground or been missed in harvesting. Loss of that grain is not a problem. However, some cranes have also fed on newly sprouting winter wheat fields, especially where wheat has been planted in former cornfields. For now, few farmers have protested the losses from their fields, but Perkins points out that farmers are bearing the biggest costs of having cranes in the area. Also, changes in local agricultural patterns could either increase the amount of damage cranes can do, or could decrease the amount of food available to the cranes.

"If it were decided to establish a federal refuge and promote wintering crane numbers at Willcox Playa, I feel it would be the responsibility of the Fish and Wildlife Service to minimize agricultural depredations," says Perkins. "This could be accomplished rather easily by planting lure crops on the refuge and harassing cranes where they threaten to damage crops on private land. Cranes are extremely wary of people. If they're chased off the same field two or three times, they won't come back there."

For now, the playa habitat suits the cranes; they keep coming back. Whether they continue to winter here in the future will depend on how the unique resources of the Willcox Playa area are used and managed.



Cranes and other water birds use the Willcox Playa in Cochise County as their winter home. Most of them can be seen at the Arizona Game and Fish Department's Mexican Duck Nesting Area. The cranes will have left for their summer nesting grounds by mid-March, but some of the other birds remain longer into the spring. The cranes should return in October and November.