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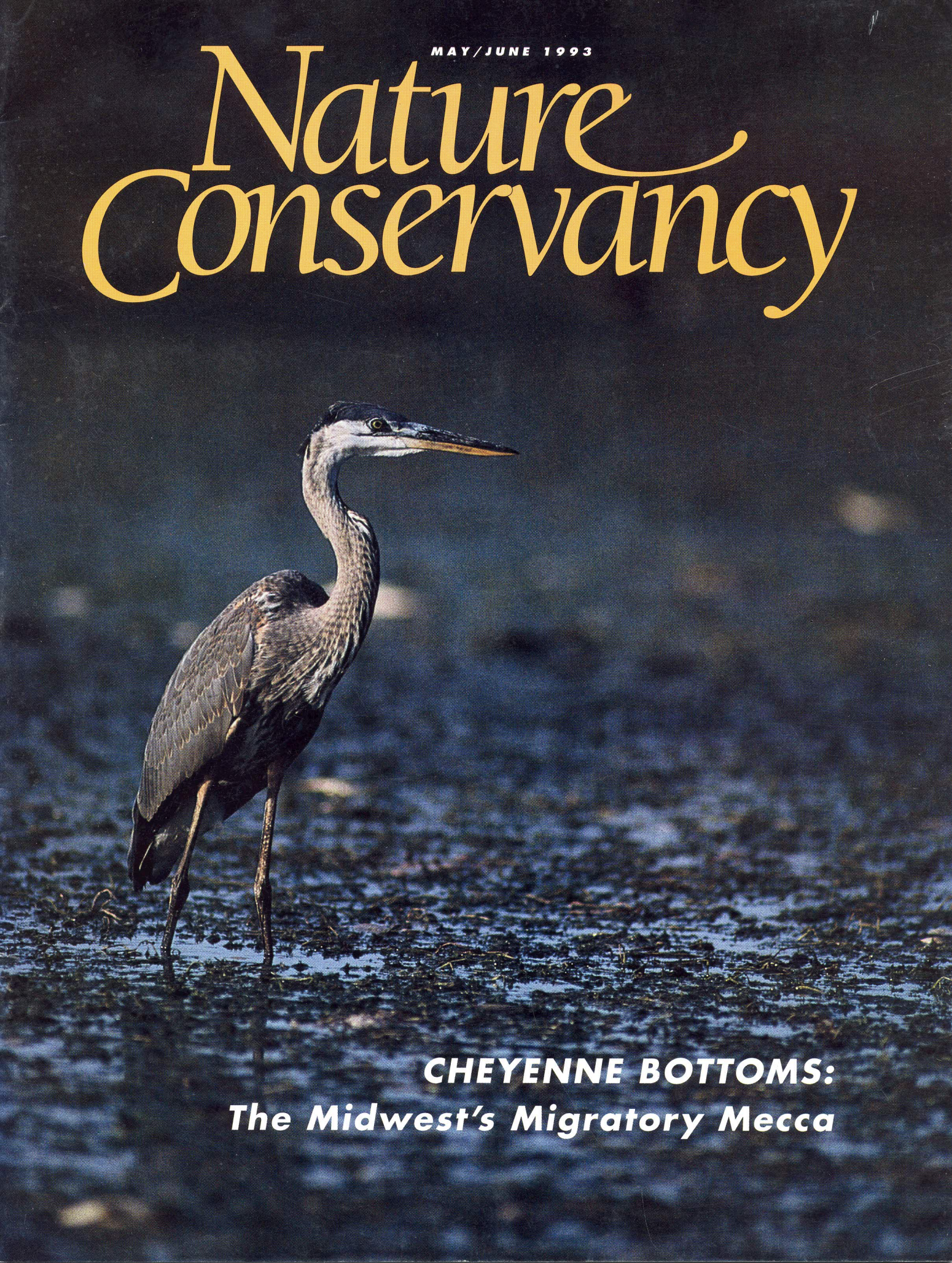
Nature Conservancy



CHEYENNE BOTTOMS:
The Midwest's Migratory Mecca

CHEYENNE BOTTOMS

FROM TIERRA DEL FUEGO TO TUKTOYAKTUK, WINGED WANDERERS FLOCK TO THIS HUMBLE KANSAS WETLAND

BY CHRIS MADSON

They aren't much to look at—gawky brown birds skittering around on mudflats in busy flocks, their wings and legs a little too long for their bodies, their eyes fixed on the muck at their feet. But biologists have found a special wonder in America's tiny sandpipers.

What they lack in grand appearance, they more than make up in wanderlust. All five species of small sandpipers—the semi-palmated, western, least, white-rumped and Baird's—nest in the subarctic tundra from Alaska to Quebec, and winter at least as far south as Peru and Surinam. At least two go much farther: the Baird's and white-rumped sandpipers spend their non-breeding season in the southern summer of Patagonia and cover as much as 18,000 miles in a year.

They fly in bursts of a thousand miles or more without rest, fueled by a few tablespoons of fat and their own ceaseless urge to cross the far horizon. When the urge burns low, they drop down to feed and rest on mudflats that have fed and sheltered their kind for a thousand generations—far-off, lonesome places like Point Barrow, Koliutschin, the Rio Chubut and Tierra del Fuego. And one place not so far off or lonesome, a marshy basin in southcentral Kansas known as Cheyenne Bottoms.

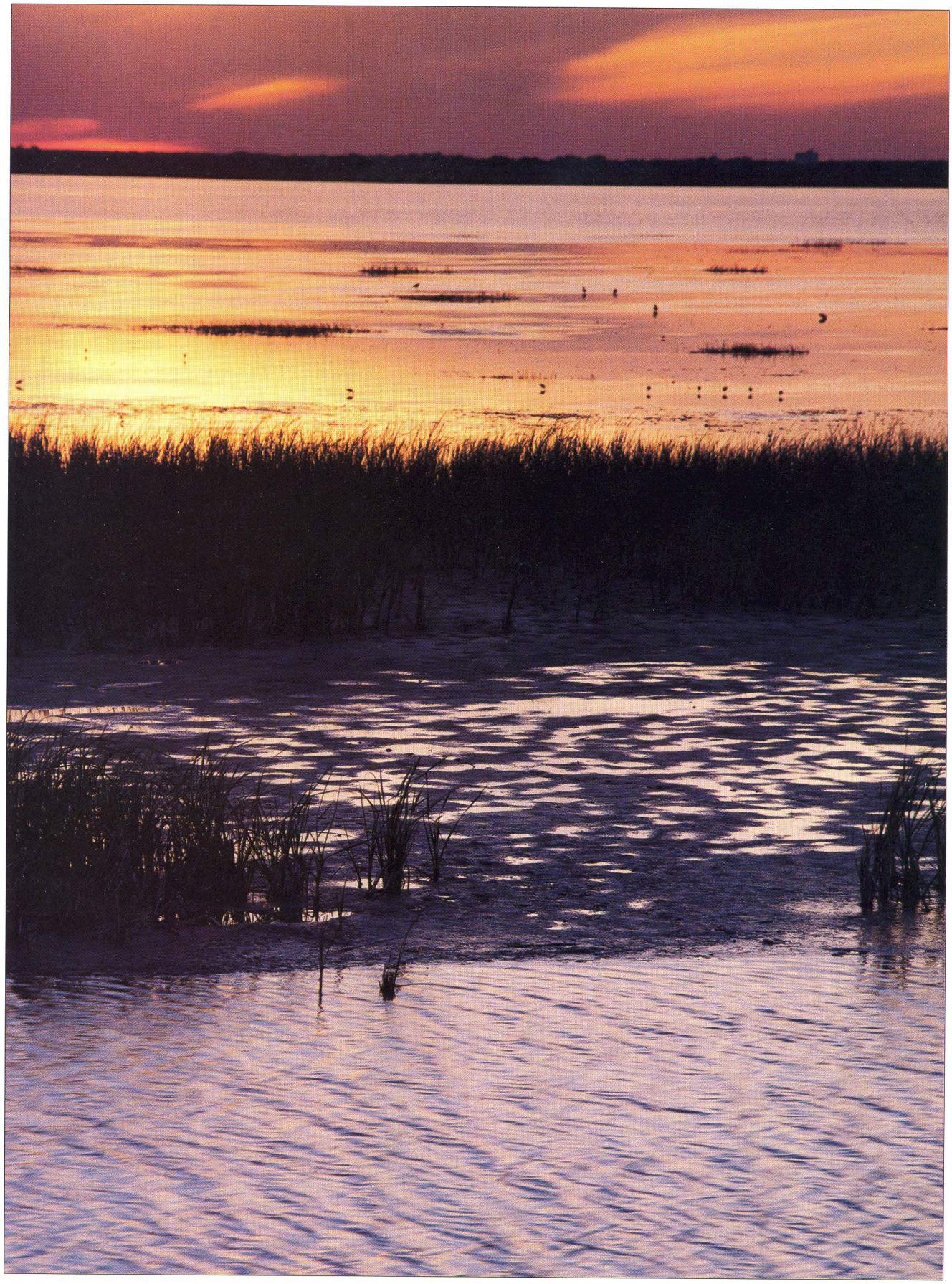
GEOGRAPHY AND TRADITION LEAD THE BIRDS to this spot. It's a thousand miles from the beaches of the southern Gulf Coast to the Bottoms, a thousand from there to the prairie potholes of southern Canada, and another 1,500 to the shores of the Beaufort Sea. For birds who measure their flights in thousand-mile increments, the rich mudflats of the Bottoms are a natural feeding and resting place. And they have offered such comfort for a very long time.

Geologists drilling through a hundred feet of marsh sediment at Cheyenne Bottoms have concluded that the silt at the bottom dates back 100,000 years. By the standards of most inland marshes, this one is ancient—the tie between the basin and the birds dates back to a time when European man was still chasing mammoths over the plains and painting pictures on the walls of caves. It's a tradition deeper than we are equipped to imagine.

But, after all these millennia, still as fresh as spring. Each April, the sandpipers, affectionately known as "peeps" by most birders, materialize on the mudflats of the Bottoms again. The Baird's sandpipers arrive first, their numbers peaking in late April, and the rest follow as the weather improves. They are joined by dozens of other shorebird species, the numbers in the mixed flocks building to unbelievable peaks. Kansas State University biology professor John Zimmerman has recorded 101,500 white-rumps, 62,580 Baird's, 210,000 long-billed dowitchers and 130,000 Wilson's phalaropes in a single day.

What attracts these hoards of shorebirds is the rich invertebrate life of the Bottoms. The mud-dwelling larvae of midges, often called "blood worms," seem to be a par-

► *The fertile marshes of Cheyenne Bottoms attract thousands of migratory birds each spring and fall.*



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ticular favorite among the "peeps." Entomologists Mark Griffith and Gary Whelker estimate that the population of blood worms at the Bottoms weighed in at about 200,000 pounds in a typical March just as the birds begin to arrive. It's a good thing they're so abundant, because the shorebirds will eat something like 330,000 pounds of blood worms during their stay. (The apparent discrepancy between supply and demand is made up by the fertility of the midges, who will go through dozens of generations in a single summer.)

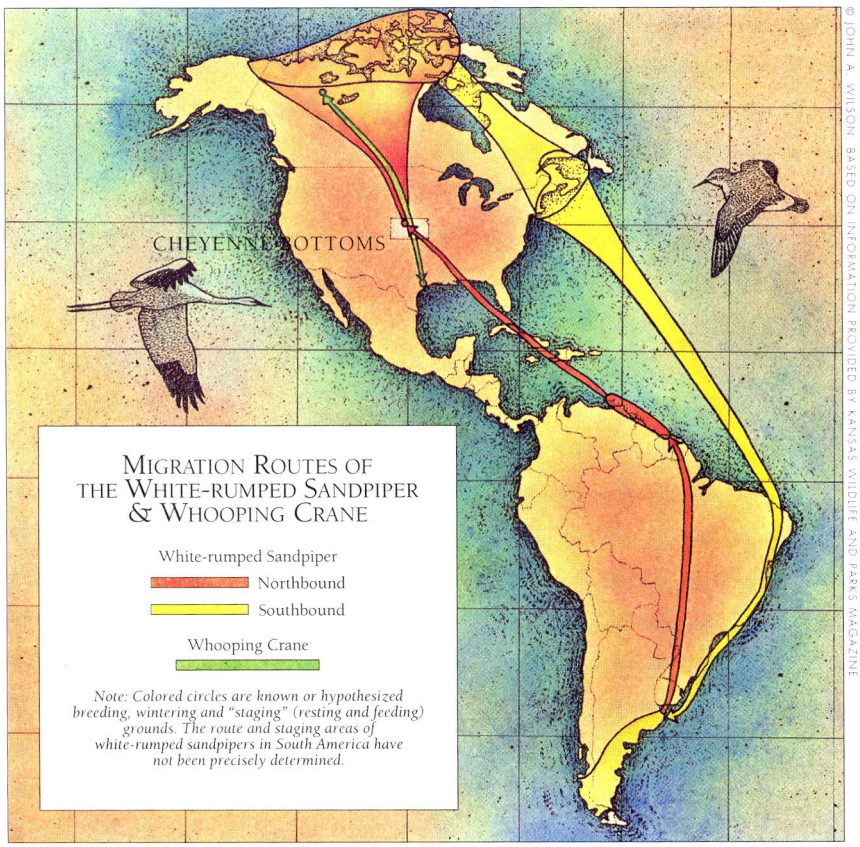
The fat stored by the arctic-nesting shorebirds during their stay at the Bottoms will do more than power the rest of the northward migration. The breeding season on the tundra is so short that the birds, especially the females, must arrive ready to breed. There's no time for a week or two of gorging before the nesting starts. As a result, a large part of each new sandpiper generation can trace its roots back to the gray muck of Cheyenne Bottoms.

Shorebird surveys have emphasized the importance of the Bottoms. A spring count in the early 1980s collected information from 210 marshes east of the Rocky Mountains. An average of 45 percent of all the shorebirds counted in that survey were seen at the Bottoms, and more than 90 percent of some species—including the white-rumped, Baird's and stilt sandpipers—were found there.

The importance of the area doesn't end with shorebirds. The bird list for the Bottoms contains 320 species, including such unusual visitors as the roseate spoonbill, anhinga and brant. Counts of ducks in the area have run as high as 500,000 birds representing 28 species. Five endangered species of birds are found at Cheyenne Bottoms: the whooping crane, bald eagle, peregrine falcon, least tern and piping plover.

As all this information has trickled in, conservationists have begun to realize what North America's wetland-loving birds have known forever: In good water years, Cheyenne Bottoms is a paradise. Biologist Alan Wentz, former assistant secretary of the Kansas Department of Wildlife and Parks and now with Ducks Unlimited, calls the Bottoms "Kansas' Galapagos, its Amazonia, its Serengeti, all in one."

▼ *The endangered whooping crane (right) stops at the Bottoms on its 3,000-mile trips from northern Canada to the Gulf Coast; the white-rumped sandpiper comes to the wetland by a longer and less direct route (left).* •



▲ *Shorebirds such as the longbilled dowitcher (left) and the white-rumped sandpiper (right) are attracted to the Bottoms by its rich invertebrate life; they may eat more than 160 tons of blood worms there each spring.*

The Western Hemisphere Shorebird Reserve Network, a group with a proprietary interest in shorebirds, has listed the Bottoms as a hemispheric reserve, one of only 11 such reserves on this side of the Atlantic. The basin has also been designated as a "wetland of international importance" under the terms of a treaty adopted by the United States and 69 other nations.

IF CRITICAL WILDLIFE HABITAT ONLY LOOKED a little more critical, wildlife conservation would be a lot simpler. In fact, the most important wildlife cover seldom looks the part. Cheyenne Bottoms is no exception. Looking down from a nearby ridge, a visitor sees a few patches of emerald cattails and the tan of open water wedged into the business affairs of a tamed landscape: large fields of wheat, milo and alfalfa; a scattering of gas and oil wells; and a gridwork of gravel roads. Like most marshes, this is not a scenic spectacle.

But the quality of a piece of scenery is largely in the eye of the beholder. Even early visitors to the plains, already jaded with the wildlife extravaganza along the Arkansas and Smoky Hill rivers, found something special in this marsh. In 1841, Dr. Frederick Wislizenus, a St. Louis physician and naturalist returning from a jaunt to Oregon, wandered into the Bottoms by mistake. Although he spent two days trying to get his horse and mule across the basin and risked losing his party altogether, he recorded the place more with amazement than irritation:

"All sorts of water birds swarmed around from all sides. Never have I seen such quantities of swans, cranes, pelicans, geese, and ducks as were here. The swamp was fairly covered with them, and they seemed to feel so safe that I could have killed hundreds of them with the shot barrel of my double-barreled weapon."

Over the decades, the handful of conservationists following the good doctor's trail have shared his awe. By the turn of the century, duck hunters were pressing for a transfer of water from the Smoky Hill River into the Bottoms to save the birds there. In 1928, state fish and game warden J.B. Doze begged the U.S. Department of Interior to include the basin in the national wildlife refuge system, arguing that "between Canada and the Gulf there is no place for waterfowl to get a drink without endangering its life." In 1933, ornithologist Frederick Lincoln recognized the Bottoms as a key staging area for ducks; thanks to the pioneering banding efforts of a local farmer, Frank Robl, Lincoln identified Cheyenne Bottoms waterfowl on nesting grounds as far north as the MacKenzie River delta and northwestern Alaska.

Conservationists first interceded on the Bottoms' behalf in the 1930s and 1940s. The state's conservation department, then known as the Kansas Forestry, Fish and Game Commission, used federal excise taxes on guns and ammunition to buy the natural marsh in late 1940s. Between 1949 and 1952, the marsh was divided into five pools with a system of low dikes, and in 1957, a system of diversions and canals from the Arkansas River was installed. Today, Cheyenne Bottoms Wildlife Area covers almost 20,000 acres in the lowest part of the basin, and a Nature Conservancy acquisition takes in another 5,400 acres of prime wetland just to the northwest.

The Conservancy's purchase of this part of the marsh in 1990 and 1991 was one of the few lucky breaks the Bottoms has had in the last century. Alan Pollom, the Conservancy's Kansas field office director, remembers the situation: "Having just opened the Kansas office, we were fortunate to have the opportunity to react when this property came on the market at public auction. It was the best

of what was out there in private ownership—the two principal streams that feed the marsh run right through the property. Last fall, we may have hosted most of the shorebirds in the basin on our property, and we had six whooping cranes on the preserve through part of September."

Karl Grover, biologist and manager of the state's holdings in the Bottoms, agrees with Pollom's assessment of the value of the Conservancy purchase: "We're pleased to have the Conservancy as a neighbor. They'll complement our management as well as preserve more marsh. And, when we get a little too much water, it's nice to have them at our back—keeps us from getting into problems with flooding crops."

The Conservancy property will be more than a duplication of the state-owned marsh. A difficult problem faces any marsh manager: Is it best to install dikes and other structures to control water, or should the area be left alone? Pollom hopes the Conservancy preserve can provide a laboratory to answer that question for the Bottoms. "We see the Cheyenne Bottoms Preserve as a proving ground for testing innovative wetland management techniques," he says.

Pollom has sought the advice of Leigh Fredrickson, a biologist and wetlands specialist at the University of Missouri. Fredrickson is completing a management plan for the preserve, and he's enthusiastic about the possibilities there. "The area hasn't been disrupted all that much, just a few field drains and roads," he says. "I'd like to see The Nature Conservancy get in there with some dump trucks and restore the natural topography. Then we can allow the land to flood seasonally the way it once did."

Fredrickson hopes to see some agriculture continued on the preserve. "We need to be sensitive to local economic conditions," he says. "I think we can still graze there as long as we do it carefully. Some alfalfa and even a little milo will be all right, too, on soil types and locations where they are suitable."

THE PROBLEMS FACING THE BOTTOMS are complex, but the solution to them all is straightforward—more water. Irrigation, dams and drought have reduced flows in the streams feeding the Bottoms, crippling management of the area. Average flows in the Arkansas River at Great Bend declined 90 percent between the 1940s and the early 1980s. In the drainage of Walnut Creek, a major stream feeding Cheyenne Bottoms, the decline in average flow was about 85 percent between 1960 and 1982.

The issue of water rights on the High Plains is complex and controversial. As a result, the best way to solve the water shortage at the Bottoms may be to use water more efficiently. The Kansas Department of Wildlife and Parks is laying plans that will help. Last spring, the department began an ambitious construction project on the state-owned portion of the Bottoms: raising dikes, dividing pools and improving other water control structures. When the project is finished, managers on the marsh will be able to store more water and move it around more easily. This kind of water manipulation is essential to the Bottoms' future as a major wetland.

There's an old saying in the arid West that water flows uphill toward money. That is nowhere more true than at Cheyenne Bottoms. Improved water management will do much to ensure the future of the marsh, but the price tag is certain to be high. Most Kansas conservation groups are pitching in, and major contributions have been made by the National Fish and Wildlife Foundation, the North American Wetlands Conservation Council, The Nature Conservancy and Ducks Unlimited.

CHEYENNE BOTTOMS IS KANSAS' GALAPAGOS, ITS AMAZONIA, ITS SERENGETI, ALL IN ONE.

The Conservancy's Kansas chapter also hopes that Cheyenne Bottoms will become the focal point for a much more ambitious shorebird protection program. The chapter hopes to raise $50,000 for a contribution to shorebird conservation in South America, a recognition of the threads that tie this marsh to the rest of the planet . . . and to the rest of time.

The trails of the bison that once seamed the High Plains have long since yielded to the grass, but the trails in the prairie sky haven't been erased. They will last as long as there are stars to guide the way and birds to follow. And, here and there, places to rest.

CHRIS MADSON, a Wyoming-based writer and editor, worked for the Kansas Department of Wildlife and Parks from 1978 to 1983.

◀ *Water is crucial to the future of the Bottoms and its denizens.*